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THE IMPACT OF GUIDED WILDERNESS CANOE TRIPS ON THE PARTICIPANTS' ATTITUDES TO, CONCERNS FOR AND BEHAVIOURS TOWARD THE ENVIRONMENT

BY

MORTEN ASFELDT

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE

OF MASTER OF ARTS

IN

RECREATION

DEPARTMENT OF RECREATION AND LEISURE STUDIES

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DATE: September 14, 1992

ABSTRACT

This study explored the impact of guided wilderness canoe trips on the participants' attitudes to, concern for and behaviour towards the natural environment. It consisted of a pre and post-experience questionnaire mailed to 71 participants of guided wilderness canoe trips on the Nahanni River, N.W.T. during the summer of 1991. The participants were primarily from Canada and the United States. The responses to the questionnaires were analyzed by simple frequency distrubutions, crosstabulations and F-ratios.

The findings provided information regarding the participants' past wilderness experience, intended wilderness activity, recent wilderness and environmental preservation activities, environmental attitudes, anticipated impact of their Nahanni trip and, in the post-experience questionnaire, personal feelings and opinions regarding the impact of their Nahanni trip. The findings revealed that the participants were similar in socio-economic characteristics and past wildeness experience to groups indentified in other studies of outdoor recreationalists, wilderness users and ecotourists. They were more pro-environmental minded than the general public yet less so than members of environmental groups. They felt that they were concerned about the environment and that their participation in a Nahanni trip would contribute to the preservation of that and other environments.

Among the many changes identified in the post-

experience questionnaire, only two were statisticially significant: the likelihood of travelling into a wilderness area increased, as did the likelihood of lobbying for the survival of the Nahanni if it were threatened. In addition, the notion that their particiption in a Nahanni trip would contribute to environmental preservation was stronger after their trip. This was primarily due to having learned minimum-impact camping techniques and experienceing the Nahanni first-hand. Also, it was clear that the guide played an important part in influencing the attitudes, awareness, appreciation and concern for the environment through role modelling.

Overall, the results of the study demonstrate that ecotourism, at least in this case, was perceived by participants to contribute to the preservation of specific ecotourism destinations and other natural environments generally. This is an important discovery for the future of ecotourism as a legitimate conservation tool and, perhaps simultaneously, an economic development tool.

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I. INTRODUCTION

A. Background

Introduction

Nature tourism, wildlife tourism, green tourism, sustainable tourism, environment-friendly tourism, alternative tourism (Valentine, in press) are all names of a popular form of tourism, more commonly known as ecotourism. Ecotourism is a component of the rapidly growing global tourism industry. The United Nations World Tourism Organization estimated that there would be 400 million foreign travellers in 1991 along with another 1.5 billion domestic travellers. This would represent 6 per cent of world trade for a total of 2 trillion dollars U.S. (Zellermeyer, 1990). Opportunities for ecotourism abound (Jones, 1987); in Canada's Northwest Territories nearly half of all tourism in 1988 was adventure-and nature-based tourism, or ecotourism. Here, the tourism industry is expected to double by the year 2000, thereby doubling the number of ecotourists (Government of the Northwest Territories, 1990). In fact, money not being a barrier, ecotourists can find guided trips to all corners of the earth. This is well illustrated by eight ecotourists who recently paid U.S. $35,000 each for a three hour flight to the Antarctic that included a landing at the South Pole

(Valentine, in press).

Proponents of ecotourism contend that this new-found form of tourism leads to both economic development and environmental and cultural preservation, while still providing the tourist with a desirable vacation experience. This is certainly the hope and belief of the Northwest Territories Government and its tourism industry (Government of the Northwest Territories, 1990).

Nahanni National Park in the Northwest Territories is a popular ecotourist destination attracting canoeists, rafters and fly-in sightseers. This thesis will examine the impact of guided wilderness canoe trips, on the Nahanni River, on the participants' attitudes to, concerns for and behaviour toward the environment.

Tourism

History of Tourism

The roots of tourism can be found in the Grand Tour of the 17th and 18th century (Butler, 1989b). Participation in the Grand Tour was limited to the privileged elite of English society and was seen as an appropriate manner in which to complete an education. Consequently, a young graduate of the English upper class was expected to go on the Grand Tour "to learn all he [could] about the history, geography, trade, climate, crops, minerals, food, clothes, customs, fauna, flora, politics, laws, art and military

fortifications of the district" (Hibbert, 1969:20). The Grand Tour was not the first example of travel away from home. This distinction probably belongs to the ancient Mesopotamians who travelled to summer homes to escape from the heat. The difference in the objectives of the Grand Tour and the Mesopotamian's travel to summer homes is the reason why the Grand Tour is generally seen as the origin of tourism (Butler, 1989b).

Improvements in mass transportation during the 19th century and changes in the amount of time spent at work were the two major factors that made tourism available to the common person (Butler, 1989b; Feifer, 1985). An additional increase in tourism occurred after the Second World War, largely due to a complex infrastructure of airports and airplanes lying idle around the world; this, coupled with a larger, more mobile middle class, led to increased accessibility and opportunity for tourism and air travel to join forces. In 1950, the first two-week package tours were made available, followed by the first charter flights in the 1960's. In 1974, tourism was a 29 billion dollar industry, accounting for 6 percent of all international trade (Feifer, 1985). By 1988, tourism had grown to be the world's largest industry, growing at an average rate of 8.4 percent annually in the preceding eight years. This pace of growth is expected to continue at least for the next ten years (Industry, Science and Technology Canada, 1990).

As easy as it may be to envision the many positive impacts that this growing tourism industry can, and does, have on many nations, there are many other associated negative consequences for the economic, socio-cultural and environmental make-up of host nations. The evolution of ecotourism is meant to nullify these negative impacts while maintaining the positive ones.

History of Tourism in the Nahanni Region

The Nahanni region has been inhabited by native peoples for thousands of years, although a precise date of settlement is not known. The first contact with white people occurred in the early 1800s when the Northwest Company first established a fur trading post on the Mackenzie River (Parks Canada, N.D.). The area was further visited by white people in the late nineteenth and early twentieth centuries when prospectors enroute to the Klondike gold fields travelled through the region (Keough and Keough, 1988).

After searching writings about the Nahanni (Keough and Keough, 1988; Parks Canada, N.D.; Patterson, 1990; Turner, 1975) it cannot be determined exactly when the first tourist came to the region although it was very likely a hunter(s) in the 1950s or early 1960s. The first canoe outfitter, Blackfeather Wilderness Adventures of Ottawa, began guided trips in the late 1970s (N. Hartling, personal communication, Feb. 10, 1992). At the present time, there

are four canoe/raft outfitters operating on the river and several air charter companies serving the region. The popularity of the Nahanni increased in 1972 after it was named a National Park Reserve and then again in 1978 when it was designated a World Heritage Site by the United Nations Educational, Scientific and Cultural Organization. This was the first such designation on the planet (Keough and Keough, 1988).

B. Study Rationale

Importance of Ecotourism

"The overriding opinion of the eco-tour operator is that the more people you get into an area, the more people know about it, the more people appreciate it, the more people who'll vote for its continuing support" (Harrison, 1990). The relationship that is implied here is that participants of eco-tours will become more environmentally educated, appreciative and supportive.

Ecotourism is seen by many conservationists as a reason for both enthusiasm and concern. It is seen as a potential vehicle for providing both economic development and conservation of natural areas: economic development being especially attractive to the Northwest Territories (Government of the Northwest Territories, 1990). Yet, in doing this, it places demands on the environment that could

destroy the very attractions that first drew people to the area (Boo, 1990).

Ecotourism is in an infant stage of development. If it is to survive as an industry, it must be economically productive while preserving the natural environment that people come to see. If it is to play a significant role in the global conservation of wildlands and unique natural environments, people leaving an ecotourism experience must value the natural environment, both site-specific and globally, to such an extent that they are concerned for its preservation, resulting in action or behaviour to that end.

Importance and Uses of the Study

With the increasing participation in ecotourism and economies dependent on the ecotourist dollar coupled with the disappearance of the earth's natural environments, it is important to know the impact that ecotour experiences have on participants' attitudes to, concerns for and behaviour towards the environment. Without this knowledge the ecotourism industry cannot know if its objectives are being achieved: that is, whether it does, in fact, contribute to the conservation of natural environments while benefiting local economies through tourist dollars.

Specifically, this study will allow outfitters on the Nahanni River, particularly Nahanni River Adventures, to assess the impact they are having on their participants

regarding intended wilderness activities, wilderness and environmental preservation activities and environmental attitudes. It will provide the outfitters with insight into the contribution that participants feel they are, or are not, making to the preservation of the specific environments they visit as well as other natural environments generally. Most importantly, it will enable them to assess whether or not their participants leave with an increased desire and willingness to contribute to the preservation of natural environments. This information will also be useful for other outfitters and ecotour operators elsewhere.

C. The Problem and its Setting

Statement of the Problem

This study proposes to address the following research question: What impacts do guided wilderness canoe trips, or ecotours, have on participants' attitudes to, concerns for, and behaviour towards the environment.

Statement of the Subproblems

The first subproblem is to develop a measuring instrument that will measure the participants' attitudes to, concerns for and behaviour towards the environment.

The second subproblem stems from the experimental nature of the project. Because it is attempting to measure a

change resulting from an experience, a control group is required. Therefore, the second subproblem is to measure the control groups' and the participants' attitudes to, concerns for and behaviour towards the environment prior to the ecotour experience.

The third subproblem is to measure the control groups' and the participants' attitudes to, concerns for and behaviour towards the environment after the ecotour experience.

The final subproblem is to analyze and interpret the treated data to determine the impacts of the guided wilderness canoe trip, or ecotour, on the participants' attitudes to, concerns for and behaviour towards the environment.

Hypotheses

The first hypothesis is that there is a positive association between participation in a guided wilderness canoe trip and pro-environmental attitudes.

The second hypothesis is that there is a positive association between participation in a guided wilderness canoe trip and an increase in pro-environmental attitudes.

The third hypothesis is that there is a positive association between pro-environmental attitudes and self-reported pro-environmental intentions.

The final hypothesis is that there is a positive

association between self-reported pro-environmental intentions and self-reported pro-environmental behaviours.

Delimitations

The study will examine only participants in a guided wilderness canoe trip on the Nahanni River, N.W.T., conducted by Nahanni River Adventures Ltd. in the summer of 1991.

Secondly, because the Nahanni River and Nahanni National Park are internationally known for their attractiveness and uniqueness in landscape, geology, legend and wilderness river travel opportunities, caution must be used when transferring results from this study to other less attractive and unique wilderness areas.

The third delimitation is that the study will not attempt to evaluate the preparation and training provided to the guides and staff of Nahanni River Adventures Ltd..

Finally, the true impact of this ecotour experience on participants may not be wholly determined by the study. This is primarily due to the limitations of the research design. Ideally, a longitudinal research design should be used to fully address the research question. However, because of time and funding limitations, this was not possible.

Limitations

The first limitation of the study is that although

wilderness canoe trips on the Nahanni River guided by Nahanni River Adventures Ltd. are similar to those provided by other companies, on the same and other rivers, they may not be entirely representative of all guided wilderness canoe trips, or ecotours. The researcher's generalizations will be restricted to the ecotours studied. A detailed description of a typical ecotour from Nahanni River Adventures Ltd. is provided in Appendix 1.

The second limitation comes from the respondents. The general assumption concerning respondents is that they respond to the questionnaire items honestly, thoughtfully and in accordance with their actual attitudes, concerns and behaviours.

The final limitation comes from the measurement instruments. It is assumed that the instruments developed accurately measure what they purport to measure.

Definition of Terms

Attitude. "an attitude is a learned predisposition to respond in a consistently favourable manner with respect to a given object" (Fishbein and Ajzen, 1975:6).

Behaviour. "behaviour is the overt, observable psychomotor response or actions of an individual (Fishbein et al.,op cit.,p.13)" (cited in Hanna, 1988).

Concern. Concern will be defined as intention: intentions "are indications of how hard people are willing

to try, of how much of an effort they are planning to exert, in order to perform the behaviour" (Ajzen, in press:6).

EcoTourism. EcoTourism is "travelling to relatively undisturbed or uncontaminated natural areas for the specific objective of studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations (both past and present) found in these areas...(Ceballos-Lascurain, 1987)" (cited in Boo, 1990).

Guided Wilderness Canoe Trip. A guided wilderness canoe trip is a canoe trip on the Nahanni River, Northwest Territories, that is outfitted and guided by Nahanni River Adventures Ltd..

Participants. Participants are people who have taken part in a guided wilderness canoe trip as paying customers.

D. Study Area Description

Nahanni National Park

The Nahanni region lies in the southwest corner of the Northwest Territories (Figure 1.1). Famous for its wild river, unique landforms, abundant wildlife and many legends, Nahanni National Park Reserve was created in 1972. The Nahanni river finds its origin at the base of Mt. Wilson on the Yukon/N.W.T. border and from there it flows southeast eventually meeting the Liard River at the tiny Indian

FIGURE 1.1

LOCATION OF NAHANNI NATIONAL PARK IN CANADA

village of Nahanni Butte. The National Park encompasses the lower two thirds of the river and totals 2,944 square kilometres. This section of the river, 330km, is the most commonly travelled section, taking travellers past the Rabbitkettle Tufa mounds, Virginia Falls, the incredible canyon system (one of the deepest in the world), through legend-rich Deadman Valley to Kraus Hotsprings and on to the Liard River over a two week period. Its 1978 designation as a World Heritage Site is an indication of the uniqueness of this area on a global scale.

During the summer season of 1991, 942 people visited Nahanni National Park. Of these, 295 (31.3 percent) were day use visitors at Virginia Falls while 38 commercial groups totalling 341 (36.1 percent) people and 75 private groups totalling 276 (29.2 percent) people travelled down the river with an average trip duration of 13.4 days. The river travellers originated primarily from Canada (79.5 percent) and the United States (12.5 percent), and the remainder (11.0 percent) from other parts of the world (Parks Canada, 1991).

E. Organization of the Thesis

Chapter II consists of a review of related literature on two principal themes: ecotourism and environmental attitudes. Chapter III describes the research method used

and its implementation. Chapters IV and V reveal the research findings and responses to the research questions posed. Chapter VI summarizes the findings and their implications, in addition to outlining needs for further research.

II. REVIEW OF THE RELATED LITERATURE

A. Tourism and Ecotourism

Butler (1989b) discusses several issues related to the definition of tourism. He points out that tourism is a relatively new phenomenon and related to recreation and leisure (both of which are still struggling towards solid definition). Therefore, he is not surprised that there has yet to emerge a definition of tourism appropriate for academic inquiry. Obviously, ecotourism is related to tourism, thereby inheriting similar definitional problems. The problems lie in defining an experience that is a personal one.

Although broad, the following definition of tourism will be assumed in this thesis: tourism includes all travel for pleasure away from one's normal place of residence involving an overnight stay. This could include pleasure trips that are a part of primarily business travel.

As mentioned in the introduction, there is a myriad of titles given to this new form of tourism, the most popular being alternative tourism, nature tourism, sustainable tourism and ecotourism (Valentine, in press). Several authors propose definitions that are useful to consider. Ceballos-Lascurain (1987, cited in Boo 1990:xiv) defines ecotourism as:

> travelling to relatively undisturbed or uncontaminated areas with the specific objective of studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations (both past and present) found in these areas...

Valentine (in press) offers several definitional ideas worth considering: that nature tourism or ecotourism is a style of tourism that includes education, recreation and often, adventure. Lucas (1984, cited in Valentine, in press:5) offers this definition: ecotourism "is tourism which is based on the enjoyment of natural areas and the observation of nature and ... has a low impact environmentally, is labour intensive and contributes socially and economically to the nation." Valentine (in press:6) concludes by recognizing the complexity of the definitional dilemma and, acknowledging its simplicity, proposes the following definition: ecotourism "is primarily concerned with the direct enjoyment of some relatively undisturbed phenomenon of nature." This author would make an addition to Valentine's definition resulting in the following: ecotourism is primarily concerned with the direct enjoyment of some relatively undisturbed phenomenon of nature while having minimal negative socio-cultural and environmental impacts and contributing positively to the host nation's economy as well as to both local and global environmental preservation.

Impacts of Tourism

The impacts of tourism have traditionally been studied in three categories: economic, socio-cultural and environmental. Of these, economic impacts have generally been viewed as positive, socio-cultural as negative and environmental as mixed (Mathieson and Wall, 1982). The following section will provide a brief overview of the most commonly recognized impacts associated with conventional tourism.

The economic impacts of tourism have clearly been the focus of the majority of tourism impact research; consequently, there is a substantial body of knowledge in this area. The five most commonly cited economic benefits of tourism include: first, the contribution of tourism to foreign exchange earnings and the balance of payments; second, the generation of income; third, the generation of employment; fourth, the improvement of economic structures; and fifth, the encouragement of entrepreneurial activity (Mathieson and Wall, 1982). However, due to the economic, socio-cultural and environmental composition of most world nations and regions, these benefits are commonly soured by one or more negative impacts.

The following five statements represent the most commonly cited negative economic impacts of tourism: first, the danger of economic overdependence on tourism; second, increased inflation and higher land values; third, an

increased propensity to import; fourth, the seasonality of production and the low rate of return on investments; and fifth, the creation of other external costs (Mathieson and Wall, 1982). Similar to the positive impacts, the negative impacts rarely exist in isolation.

Environmental impacts are of more concern today than ever before. Although there exists a considerable body of knowledge related to the environmental impacts of tourism, there is a need to expand and integrate what is known. This is because much of the research to this point is very specific and must be synthesised to provide a framework for tourism planning to minimize negative impacts.

Nepal provides some classic examples of the potential negative impacts of tourism. In the 1960s, the first commercial treks took place in Nepal which now sees 300,000 tourists annually, some 60,000 of these being trekkers (Buckley, 1991). The negative impacts associated with trekking include litter and pollution, deforestation, and damage and disturbance of wildlife (Gurung, 1990). Other examples worldwide include pollution associated with increased waste removal, environmental degradation associated with the building of infrastructure, and pollution associated with accidents as seen by the oil spill created when a cruise ship ran aground in the Antarctic (Morrow, 1991).

There are several examples of tourism having a positive

impact on the environment such as Parc des Volcans in Rwanda and Rathambhor National Park in India. The specifics of these successes will be discussed in the later section, The Successes of Ecotourism.

The socio-cultural impacts of tourism are generally thought to be negative (Mathieson and Wall, 1982). Tourism impacts the socio-cultural make-up of a host nation through the interaction of tourists and local people; the greater the difference between the tourist and local people in socio-cultural and economic characteristics, the greater the impact will be (Lundberg, 1976). For example, tourists often exhibit a standard of living that is far higher than that of the country which they are visiting, and often higher than their own normal standards (Keogh, 1989). This may result in local people being dissatisfied with their current living conditions, causing them to seek higher, unrealistic ones (Bregha, 1989). This is referred to as the demonstration effect, where the example of a more sophisticated culture "rubs off" on the host culture (Hitchcock and Brandenburgh, 1990).

Benefits of Ecotourism

Some of the common themes that are found in the definitions of ecotourism reflect its many benefits. Essentially, in its ideal state, proponents of ecotourism claim it provides both the tourist and the host nation the

best of two worlds: the economic benefits of tourism without the negative economic, socio-cultural and environmental impacts. In addition, they claim that ecotourism has the capacity to play an important role in the preservation of disappearing natural environments. This is exemplified by Harrison (1990:10) who noted that: "the overriding opinion of eco-tour operators is that the more people you get into an area, the more people know about it, the more people appreciate it, the more people who'll vote for its continuing support." Sutton (1990:15) suggests a similar outcome while welcoming the ecotourism trend: "trends toward wildlife tourism, both domestic and foreign are welcome, for there is no better way to communicate the worth of a country's natural wealth than to allow others to experience it firsthand." Sutton (1990) goes on to declare that ecotourism can serve conservation efforts, as well as directly benefit local populations in the vicinity of protected areas through both economic gains and improved environmental conditions.

Aldo Leopold (1949) would have starkly disagreed with the claims put forth by Sutton (1990) and Harrison (1990). Leopold (1949:101) made the comment: "all conservation of wilderness is self-defeating, for to cherish we must see and fondle, and when enough have seen and fondled, there is no wilderness left to cherish." This seemingly negative perspective has some truth and must be addressed. The Great

Barrier Reef in Australia (Boo, 1990), trekking trails in Nepal (Gurung, 1990) and Canada's Point Pelee National Park (Butler and Fenton, 1987) are all showing signs of being "over fondled". Nevertheless, proponents of ecotourism claim that its intention is to contribute to the conservation of natural environments while benefiting local economies. The means by which this is sought will be explored in the next section.

Successes of Ecotourism

One of the most well known and perhaps most successful examples of ecotourism is Parc des Volcans in Rwanda. This park was created at the instigation of Dian Fossey, an American zoologist who studied such famous gorillas as "Digit" and "Uncle Bert". She had two primary concerns for the formation of the park: first, to provide a sanctuary where the gorillas would be safe from poachers; and second, to stop the clearing of the forest higher and higher up the mountains, as this destroyed not only gorilla habitat but also the precious watershed on which agriculture is dependent (Boo, 1990). Not only has the creation of the park achieved the goals that Fossey had hoped, but as an international tourist attraction, Parc des Volcans has become the third largest source of foreign income for Rwanda (Boo, 1990).

Tourism is now Costa Rica's third largest source of

foreign income, the majority arising from ecotourism. By peaking the interest of the government, it has developed a national conservation strategy which attempts to ensure the future success of ecotourism (Romeril, 1989). Costa Rica is receiving world-wide attention for it's outstanding system of parks and reserves that protect it's many natural resource attractions. One of Costa Rica's major attractions is diverse wildlife which is the result of Costa Rica being a bridge between two continents resulting in inter-continental wildlife migration (Boo, 1990).

In Rathambhor National Park in India, ecotourism has become the catalyst for meeting the needs for wildlife conservation and the Indian people living in surrounding areas. Since the creation of the park, the once endangered tiger population has doubled; also benefiting are the swamp deer, elephant, rhino and wild buffalo populations, and of course, the ecosystem in general (Sutton, 1990).

Limitations of Ecotourism

Although the previous examples demonstrate that ecotourism can, and does, have positive impacts on local economies, and stimulates cultural and environmental preservation, it also has a variety of negative impacts that can nullify many of the positive ones. The greatest danger for ecotourism is that it will not be appropriately planned and controlled, thus allowing it to evolve into what we know

as conventional tourism.

Ecotourism, like conventional tourism, can be highly unstable. Tourist travel varies with the political stability of a region, weather trends, and fluctuations in foreign currency exchange rates (Boo, 1990). This instability, coupled with the often seasonal nature of the industry, poses a serious threat to regions that are heavily dependent on tourist dollars for their economy. This can be an inhibiting factor affecting the willingness of local governments and foreign entrepreneurs to invest money in the tourism industry.

In the early stages of development, the economic benefits of ecotourism may not be realized in the host nations. This is due to high "leakage" (Butler, 1989a). The term "leakage" refers to money that is spent to provide the ecotourism experience but which does not remain a part of the host nation's economy. This becomes a lesser problem as ecotourism develops and increases the involvement of local people. This involvement of local people is crucial for ecotourism to fulfil its goal of benefiting the host nation economically.

Ecotourism is limited in its economic potential on an additional two counts: first, by the social carrying capacity of the typical ecotourist (Ziffer, 1989); and second, by the potential degradation of the environment, the attraction that makes ecotourism possible (Butler, 1989a).

The typical ecotourist is one who usually has a low tolerance for crowding (Ziffer, 1989). Thus, if the industry is allowed to grow excessively, the ecotourist will begin to feel crowded and seek other opportunities to meet the need for solitude. Therefore, regions cannot develop ecotourism to accommodate the masses. Environmental degradation can be related to the number of ecotourists that visit an area. Ecotourism is especially vulnerable to this effect because it involves visiting unique and fragile environments (Butler, 1989a). Consequently, the environments visited have a lower carrying capacity if they are to maintain the environmental integrity that makes them attractive. For example, the different impacts of 10 or 1000 people per day walking the concrete sidewalks of Waikiki are far less consequential to its attractiveness than 10 or 1000 people per day walking through the fragile sea bird nesting grounds of South Moresby Island.

The environment also suffers when local residents and ecotourists compete for scarce resources. The competition for firewood between trekkers and the Nepalese people is a good example (Gurung, 1990). In this case, trekkers were using scarce wood supplies for heating water to have hot showers while the Nepalese were dependent upon that same wood to heat their homes and cook their food. The Annapurna Conservation Area has now been able to reduce this competition, in Annapurna National Park, through education

of both trekkers and local residents.

Souvenir hunting is taking its toll on the Great Barrier Reef of Australia because tourists are buying coral to take home (Valentine, in press). Unfortunately, this sort of raping of attractive and sensitive natural features is difficult to stop unless protected by government legislation. In this respect, the growing number of National Parks and Conservation Areas is a positive step towards decreasing this destructive activity.

There is a popular comment that appears in many articles and chapters about ecotourism: "Let's not kill the goose that laid the golden egg" (Fediow, 1988:5). The goose that is referred to here is the environment; the only way in which the environmental impacts mentioned can be avoided is through well planned, managed and monitored ecotourism developments.

Socio-cultural impacts of ecotourism are similar to those of conventional tourism. Due to the increased time and intensity of the contacts with ecotourists, they are feared to have greater impacts than conventional tourists (Bregha, 1989). The demonstrator effect, as mention earlier, has quicker and more profound effects due to the intensity of the cross-cultural interaction. The demonstrator effect is increased as the difference between the host and tourist standards of living, traditions, values and beliefs grows. This would indicate that the potential for a greater effect

should be of considerable concern with ecotourists as they are predominantly well educated, affluent upper middle class people (Boo, 1990; Hvenegaard, 1989) and many of the countries they visit are developing countries.

Development Implications

The growth of ecotourism has been influenced by three important factors: first, the overall growth in the tourism industry; second, the growth in speciality travel; and third, an increase in awareness and concern for the environment (Ziffer, 1989). It is anticipated that these factors will continue to influence the growth of ecotourism; therefore, it is important to highlight the key implications these have for future development.

It is important to have realistic expectations of ecotourism because it does have limitations which, if not considered, could have devastating impacts. Butler (1989a:16) suggests that the following question be asked before any development begin: "Is alternative tourism an appropriate form of development, not instead of mass tourism, but in its own right?" This question should lead one to the realization that there are some areas that are best left to nature and not developed in any manner. Although ecotourism can promote the conservation and preservation of the environment, if a specific environment is not threatened in any manner then it is perhaps best left

alone. Ecotourism is an excellent form of development that should compete with resource extraction industries for the use of wildland. As Johnson (1986) points out, in British Columbia the tourism industry, in some cases, can provide more jobs over a longer time period than logging of that same area; in these cases ecotourism should be developed as an economical, sustainable alternative. However, ecotourism is not the best for all situations (Butler, 1989a).

Ziffer (1989) suggests that the key to ecotourism success is to have a slow planned start, the only exception to this being when expedience is needed to save a fragile environment from other development threats. This feeling is echoed throughout the ecotourism literature (Boo, 1990; Cohen, 1989; Inskeep, 1987; Sutton, 1990). Alongside this notion is the belief that planning must include all parties that will be involved and affected: local people; local, regional and national governments; tour operators; land owners; and conservationists (Boo, 1990; Inskeep, 1987; Jones, 1987; Valentine, in press).

The International Institute for Environment and Development (in Johnson, 1986) has proposed five criteria to which sustainable development should adhere. These are: meeting the basic needs of the poor; sensitivity to culture and tradition; a proper consideration of the carrying capacity of the natural resource base; technology appropriate to the place where it is applied; and income

generation for all those involved. Adhering to these five principles is not an easy task and requires a comprehensive plan and development strategy. In the words of Sutton (1990;18), "without sound planning, tourism and the development it brings might destroy the very resource on which it is based."

Cohen (1989), in his critique of ecotourism, states that its real value lies in helping to deal with the problems of mass tourism, not to eliminate mass tourism, but to provide a well-planned alternative. He suggests that unless there have been some lessons learned from the development of mass tourism and unless they are avoided in the development of ecotourism, mass tourism will once again be created.

Summary

Ecotourism has the potential to be an economically viable route to both the conservation and preservation of unique and fragile environments, cultures and traditions; to contribute to community and regional development, as well as provide nature lovers with satisfying tourism opportunities. It also has the potential to "Kill the goose that laid the golden egg" (Fediow, 1988:5). Nevertheless, if developers realize the limits of ecotourism and set appropriate expectations, ecotourism has the potential to achieve its goals. Whitton (1990:8) made the following comment that

appears to contain some wisdom:

> I don't suggest that ecotourism alone is going to preserve our tropical rain forests, but the fact that it becomes a money-making activity for the people involved means they tend to hold nature and their park resources and game preserves in higher esteem.

Ecotourism claims to increase the environmental and cultural awareness of ecotourists so that they might do their small part in helping to preserve "spaceship earth". Perhaps it is useful to view ecotourism as the tourism industry's small contribution to the preservation of "spaceship earth".

B. Environmental and Adventure Education

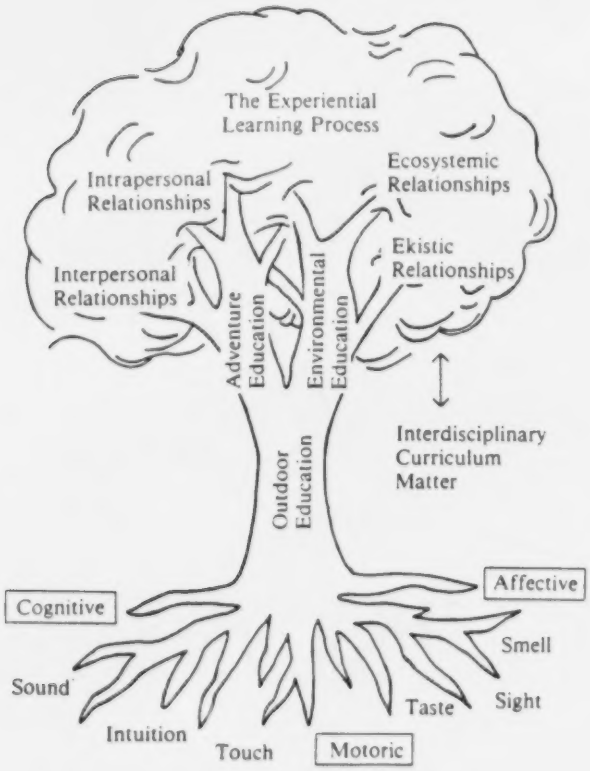
Introduction

Environmental and adventure education are branches of outdoor education and, typically, wilderness based (Figure 2.1). Although both are distinctly different in their primary goals, they do possess similarities. Indeed, recent research suggests that they are, in fact, symbiotic and cannot exist independently (Hanna, 1988). Ecotourism parallels environmental and adventure education in many respects.

Environmental education programs, as the name suggests, focus on teaching about the environment and ecological

Figure 2.1

Priest (1986) The Outdoor Education Tree



concepts. They have "traditionally concentrated on the ecosystemic and ekistic relationships" (Priest, 1986:14). Adventure education involves overcoming wilderness challenges through a variety of outdoor pursuit activities. They have "traditionally concentrated on the intrapersonal and interpersonal relationships" (Priest, 1986:14). It is characterized by the "purposeful planning and implementation of educational processes that involve risk in some way" (Miles and Priest, 1990:1).

Environmental and adventure education are both experiential in nature and are best suited for a natural or wilderness setting. In this sense they are complementary. Also, there is an association between intrapersonal relationships (how one relates to oneself), interpersonal relationships (how one relates to others), ecosystemic relationships (how the different parts of the ecosystem interact), and ekistic relationships (how people interact with their natural surroundings). The importance of these four relationships is that:

> Adventure approaches need to deal with environmental issues if they are to protect the setting they treasure so greatly. Environmental approaches need to develop confident individuals who solve problems cooperatively and who can make sound judgements regarding stewardship of our planet. (Priest, 1986:15)

Again, the wilderness setting with in a functioning ecosystem is essential for the survival of these approaches

to education.

The ultimate goal of environmental education is the adoption of responsible environmental behaviour (Sia et al., 1985/86; Sivek and Hungerford, 1989/90). Through purposeful planning and implementation, the goal of adventure education is to consciously expand the self through an adventure experience. To "learn and grow and progress toward the realization of [full] human potential" (Miles and Priest, 1990:1).

Research Results

There are some distinct trends that appear to be outcomes of environmental and adventure education. Clearly, many programs do not achieve their desired goals. However, the research also reveals several consistent recommendations for more complete goal achievement and, hence, more effective and influential programs.

Three recurring factors that are necessary for environmentally responsible behaviour in individuals are: a high internal locus of control, which is an individual's perceived ability to bring about change (Hanna, in press; Newhouse, 1990; Sivek and Hungerford, 1989/90); a sound understanding of the issues and action strategies (Newhouse, 1990; Sia et al., 1985/86; Sivek and Hungerford, 1989/90); and strong environmental sensitivity developed through long (greater than five days) exposure to pristine wilderness

environments (Gillett et al., 1991; Hanna, in press; Newhouse, 1990; Sia et al., 1985/86; Sivek and Hungerford, 1989/90).

In addition, role modelling has been identified as an effective method of changing attitudes (Newhouse, 1990; Sia et al., 1985/86). Modelling is dependent on associating objects or behaviours, in this case wilderness and responsible wilderness behaviour, with people who are liked and respected (Newhouse, 1990). To be effective, modelling must follow these criteria: subjects must believe that the rewards observed from the model will be the same if they perform the behaviour; the benefits of the behaviour must appear to outweigh the costs; the model must be viewed in an emotionally positive light (Petty and Caccoppo, 1981).

The shortcoming of modelling is that is fails to equip the learner with decision making, or action strategy skills (Newhouse, 1990). This view is supported by research which suggests that to make people aware of the issues, or to simply model appropriate behaviour, is not sufficient to make them active wilderness preservationists (Hanna, in press; Newhouse, 1990; Sia et al., 1985/86; Sivek and Hungerford, 1989/90). One researcher (Newhouse, 1990), suggests that it is not programs that are designed to educate people that are the most powerful ones, but actual life experiences. Research by Hendee et al. (1968, cited in Newhouse, 1990) supports this notion. They claim that nearly

70% of all wilderness users participated in their first wilderness experience before the age of 15. In addition, Newhouse (1990) feels that most conservationists have witnessed the loss of a treasured habitat or natural area and that this has motivated their conservationist actions. Therefore, Newhouse (1990:31) suggests that:

> to encourage environmentally responsible behaviour would be to expose students to a natural setting, help them foster a sense of love for the area, and then expose them to a similar area that has been destroyed by human practices.

Clearly, if environmental and adventure education programs are to promote responsible environmental behaviour in their students, they must give information on environmental issues, provide the skills required to use action strategies effectively, promote high internal locus of control, provide people with extended periods of exposure to pristine natural and wilderness environments, and model responsible environmental behaviour and attitudes.

Links Between Environmental and Adventure Education and Ecotourism

Ecotourism claims to be an avenue to the preservation of wilderness areas both directly and indirectly: directly, by demonstrating that wilderness has economic value through tourism (Boo, 1990) and, indirectly, by fostering a love for

wilderness amongst tourists that will result in their acting in support of its preservation (Harrison, 1990). Obviously, the indirect goals of ecotourism are similar to those of environmental education. In addition, many ecotourism opportunities are similar to adventure education in that there is uncertainty and risk involved in the outdoor pursuits undertaken. For example, paddling a wilderness river has a certain amount of inherent risk that cannot be eliminated. Indeed, this risk is one of its attractions.

It could be suggested, in fact, that ecotourism is simply a commercialization of environmental and adventure education. There has been no research that has investigated the environmental outcomes of ecotourism. Yet, it would seem reasonable to use the research findings regarding environmental and adventure education as a guide and reference to ecotourism outcomes because of similarities in goals and settings.

C. Environmental Attitudes and Recreation

There has traditionally been an assumed relationship between environmental attitude and recreation participation (Dunlap and Heffernan, 1975; Geisler et al., 1973; Jackson, 1986). This relationship has been investigated by a variety of researchers using a variety of measures for both environmental attitude, or concern, and recreation

participation.

Knopp and Tyger (1973) were the first to provide empirical evidence regarding environmental attitude and recreation. The two hypotheses tested in their landmark study were that:

1. People who engage in motorized forms of recreation are less likely to have environmentalist values than those who prefer self-propelled forms of recreation;
2. People who engage in motorized forms of recreation are less likely to understand or sympathize with the concept of devoting specific recreation areas for distinct purposes than are those who prefer activities with less environmental impact. (Knopp and Tyger, 1973:7-8)

Knopp and Tyger's (1973) study supported both hypotheses. However, as evidenced by subsequent research, their measures of environmental attitude were "highly specific - that is, they did not tap fundamental beliefs and values..." (Jackson, 1989:361). In addition, their one-to-one analysis technique between cross-country skiers and snowmobilers has since proved deficient (Jackson, 1989).

Dunlap and Heffernan's 1975 study of Washington State residents is unquestionably the seed from which ensuing studies of relationships between outdoor recreation participation and environmental attitudes have grown. Dunlap and Heffernan (1975) set out to test empirically the proposition that involvement in outdoor recreation activities "creates an awareness of environmental

problems...[and] creates a commitment to the protection of valued recreational sites; and, also, cultivates an aesthetic taste for a 'natural' environment which fosters a generalized opposition to environmental degradation" (Dunlap and Heffernan, 1975:18). This led to the development of three hypotheses:

1. That there is a positive association between involvement in outdoor recreation and environmental concern;
2. That the association is stronger between appreciative activities and environmental concern than between consumptive activities and environmental concern;
3. That there is a stronger association between outdoor recreation and concern with protecting aspects of the environment necessary for pursuing such activities than between outdoor recreation and other environmental issues such as air and water pollution. (Dunlap and Heffernan, 1975:20)

Dunlap and Heffernan (1975) gathered data through a 1970 mail survey of 3101 Washington State residents to test these hypotheses. As dependent variables they used eight indicators of environmental concern, such as population control, pollution control and protection of natural resources. As an independent variable, respondents were asked to indicate frequency of participation during the previous year of a list of 14 outdoor recreation activities. Of the 14 activities listed, three were classified as appreciative: hiking, camping, and visiting state parks; and two were classified as consumptive: hunting and fishing.

The results of this study lent weak and mixed support for the first hypothesis and strong support for the second and third. In checking for spurious results, they controlled for socio-demographic characteristics, which were shown to have little effect on the results. Dunlap and Heffernan (1975) suggested that further studies in this area should examine a wider range of outdoor recreation activities and improve the measurement of environmental concern.

Geisler et al. (1977) re-examined Dunlap and Heffernan's first and second hypotheses using data from a 1974 survey of rural Wisconsin residents. They used broader measures for both environmental concern and recreational habits. To measure environmental concern "we used several measures of environmental problem awareness to indicate one type of concern and measures of support for public action to solve certain of these problems to exemplify a second" (Geisler et al. 1977:242). Results weakly supported both hypotheses. However, their "findings suggest that it may be individual characteristics rather than recreational habits which account for most of the environmental concern in northwest Wisconsin" (Geisler et al., 1977:247). They concluded further that "at most it can only be said that particular forms of outdoor recreation are related to particular environmental concerns at particular times and places". Thus, this study casts doubt on the validity of Dunlap and Heffernan's (1975) hypotheses.

Pinhey and Grimes (1979) attempted a replication of the Dunlap and Heffernan (1975) study, re-testing the first two hypotheses. However, they did not heed the recommendations made by Dunlap and Heffernan (1975). They found poor support for both hypotheses and claimed that socio-economic characteristics were better predictors of environmental concern.

There were two principal weaknesses in the Pinhey and Grimes study. First, they used a very narrow measure for environmental concern composed of two natural resource oriented questions. Second, their measure of recreational participation eliminated anyone who had participated in both an appreciative and a consumptive activity in the past year while neglecting to measure intensity of participation. Therefore, someone who participated in fishing 100 times in the past year and bird watching once, was eliminated from the data where as someone who fished once during the past year and participated in no other activity was included. In light of these shortcomings it is recommended that their results be considered with caution.

Van Liere and Noe (1981) retested two of the original Dunlap and Heffernan (1975) hypotheses using stronger measures for environmental attitudes and outdoor recreation. The two hypotheses tested were:

1. that involvement in outdoor recreation is positively associated with environmental concern;

2. that involvement in appreciative activities (such as hiking or photography) is more strongly associated with environmental concern than participation in consumptive activities (such as hunting or fishing). (Van Liere and Noe, 1981:506)

A mail survey was conducted in 1978 of visitors to and residents of Cape Hatteras National Seashore. To measure recreation activity, respondents were asked how many hours per day they participated in each of several activities. They were then asked the number of days that they engaged in the activity. This measure is an improvement over previous measures in that it addresses both intensity and frequency.

The measure used for environmental attitude consisted of the New Environmental Paradigm (NEP) developed by Dunlap and Van Liere (1978). This was an improvement over previous measures in that respondents are asked to "express their general orientation toward the environment rather than awareness or concern about specific environmental problems" (Van Liere and Noe, 1981:509) and it is "a multiple-item scale which should prove more reliable than the single-item indicators used in previous studies" (Van Liere and Noe, 1981:509).

The results were somewhat surprising in that the magnitudes of the associations were not significantly higher than those for the original Dunlap and Heffernan (1975) study. The results did, however, support the contention that the relationships are not spurious. Van Liere and Noe (1981)

suggest three possible explanations for the results: first, that the hypotheses are indeed true but further improvement in measurement techniques are still required; second, that there is not a significant relationship between outdoor recreation and environmental attitudes; third, that there is a significant relationship but the linkage is more complex than is realized by researchers. Van Liere and Noe (1981) believed that the third of these is the correct explanation. They also suggested that an alternative hypothesis be explored: "that pro-environmental orientation is associated with recreational specialization" (Van Liere and Noe, 1981:512).

Jackson (1986), in a Canadian study, further addressed the relationship between outdoor recreation participation and environmental attitudes. Jackson, as recommended by Van Liere and Noe (1981), improved the measurement techniques for both environmental attitude and recreation participation. Jackson (1986) improved measures for participation by pairing participants of two activities while eliminating those respondents who had participated in both or in neither of the activities. Once paired in this fashion, the environmental attitudes of two distinct recreation users could be correctly compared. Jackson (1986) tested two hypotheses:

1. participants in appreciative activities will exhibit stronger pro-environmental attitudes than

participants in consumptive or mechanized activities;
2. there will be a stronger association between outdoor recreation participation and attitudes towards specific aspects of the environment necessary for pursuing such activities than between outdoor recreation participation and attitudes to more 'distant' and general aspects of environmental issues. (Jackson, 1986:9)

Results of the study supported both the hypotheses.

Bikales and Manning (1990) further tested two of the original Dunlap and Heffernan (1975) hypotheses, namely:

1. that outdoor recreation participation is positively associated with environmental concern;
2. that appreciative activities are more likely associated with environmental concern than non-appreciative activities.

Bikales and Manning (1990) conducted a telephone survey of 503 random Vermont residents. To measure environmental concern they used six statements that "addressed environmental protection sentiments and attitudes toward potentially environmentally-adverse economic growth" (Bikales and Manning, 1990:14) that were specific to Vermont. In addition, to measure recreation participation, Bikales and Manning used advancements made by Jackson (1986) with further refinement. The refinements were in pairing only those activities that were similar in: exertion, equipment, environments, season and movement patterns. The findings of their study support both hypothesis. They

conclude by saying "the positive relationship between appreciative outdoor recreation activities and environmental concern would seem to bode well for the environmental protection movement" (Bikales and Manning, 1990:17).

D. Measurement of Environmental Attitudes

In response to the weaknesses expressed by the studies in the previous section, a modest body of research has developed which is devoted to the measurement of environmental attitudes. This body of research has shown significant improvements in the ability to measure environmental attitudes accurately and reliably. This is important not only from the perspective of contributing to a body of knowledge, but also because the environment is of increasing concern for today's society; therefore, it is important to be able to understand and measure attitudes toward it which reflect corresponding fundamental values and beliefs.

Dunlap and Heffernan (1975) were the first to recommend that an improved measure of environmental attitude be developed. This was attempted by Dunlap and Van Liere (1978). They cited numerous writers who claimed that the majority of the environmental problems facing the American people stemmed from the dominant attitudes, values and beliefs these people held. These attitudes, values and

beliefs constitute what Dunlap and Van Liere (1978) called, society's Dominant Social Paradigm (DSP). This paradigm is measured through 37 statements that characterize beliefs such as: belief in abundance and progress; faith in science and technology; and belief in anthropocentrism.

A contrasting set of attitudes, values and beliefs were seen to be emerging that challenge the DSP. This set of attitudes, values and beliefs they termed the New Environmental Paradigm (NEP). It is measured through 12 statements that characterize beliefs such as: limits to growth; anti-anthropocentrism; and the need for a balance of nature.

Dunlap and Van Liere (1978) developed two instruments to measure these two contrasting belief systems. To test the acceptance of the NEP by the general public they surveyed two groups. One group was a general public sample (GPS), while the other was an environmental organization sample (EOS); both groups were from Washington State. Their hope was that the GPS and the EOS would both accept the NEP but that the EOS would show a stronger acceptance than the GPS. The results of the study were, for the most part, as predicted, but with one major exception; the general public showed greater acceptance of the NEP than expected.

Dunlap and Van Liere (1978:16-17) concluded by saying that "we believe that the NEP Scale has predictive, construct and content validity. Consequently, we tentatively

conclude that it represents a valid instrument for measuring the [NEP]". They recommended future research to validate the NEP scale and to point to ways of improving it.

In a subsequent study Dunlap and Van Liere (1984) examined the "linkage between commitment to the DSP and concern for protecting environmental quality" (Dunlap and Van Liere, 1984:1015). The results were as hypothesized and, overall, the

> results strongly support the hypothesis that commitment to the dominant social paradigm leads to lower levels of concern for environmental protection, as the DSP was found to explain considerable variation in several indicators of environmental concern even when potentially important demographic characteristics were taken into account. (Dunlap and Van Liere, 1984:1023)

In summary, Dunlap and Van Liere's (1978,1984) development and preliminary testing of the NEP and DSP paradigms as a valid instrument for measuring environmental attitudes directly addresses the weaknesses identified in previous studies that have attempted to measure environmental attitudes. This was a significant accomplishment and major breakthrough for subsequent environmental attitude research.

Since the Van Liere and Noe (1981) study there have been four subsequent studies that have used Dunlap and Van Liere's (1978,1984) environmental attitude scale, with slight modifications, to measure environmental attitude

(Farbrother, 1985; Jackson, 1986; Kuhn, 1988; Rodgers, 1987). In general, the results from these studies indicate that the Dunlap and Van Liere (1978) scale provides reliable measures of environmental attitudes.

The primary aim of Farbrother's (1985) study was to "determine whether the public's energy preferences and behaviour can be understood with reference to their fundamental values, attitudes and beliefs" (Farbrother, 1985:25). To measure fundamental values, attitudes and beliefs regarding the environment, Farbrother utilized 23 of the original 49 statements that made up Dunlap and Van Liere's (1978,1984) NEP and DSP paradigms. Some of these statements were slightly modified. Respondents represented a general public sample from the City of Edmonton, May 1984. Results from this study are consistent with those of Dunlap and Van Liere (1978,1984). They showed that "the public's fundamental values and beliefs, or world views, [can] be clearly understood with reference to environmental issues" (Farbrother, 1985:87).

Jackson (1986), in his Canadian study referred to earlier, used a random sample of the general public from Edmonton and Calgary to investigate the relationships between outdoor recreation participation and attitudes to the environment. This study also used the Dunlap and Van Liere (1978,1984) NEP and DSP paradigms as a basis for developing a environmental attitude measurement tool. Of the

original 49 statements in the Dunlap and Van Liere (1978,1984) NEP and DSP paradigms, Jackson (1986) used 24 with some slight modifications. Rather than analyzing the NEP and DSP scales separately, as done in previous studies, Jackson (1986) viewed the two scales as opposite ends of a spectrum. In addition, in the analysis, Jackson used factor analysis techniques which was an improvement because "the varying strengths of relationships between these dimensions and outdoor recreation participation may be compared in order to pin-point the attitudinal attributes most closely associated with particular forms of outdoor recreation" (Jackson 1986:9). Once again, the environmental attitude scale proved adequate in measuring the respondents' environmental attitudes.

Rodgers (1987) conducted yet another Alberta study that compared the environmental attitudes, energy preferences and energy conservation behaviours between three groups: environmentalists (random sample from the Alberta Wilderness Association), business executives (random sample of corporate business executives drawn from a listing of successful and established leaders), and the general public (random sample from Edmonton). Of the original 49 statements in the Dunlap and Van Liere (1978,1984) NEP and DSP paradigms, Rodgers (1987) used 21 with some slight modifications. Once again, the environmental attitude scale proved adequate in measuring the respondents' environmental

attitudes.

Kuhn (1988) conducted a study that examined the relationships between environmental attitudes and a variety of energy issues, preferences and practices. To measure environmental attitudes Kuhn (1988), too, employed the Dunlap and Van Liere (1978,1984) DSP and NEP scales, drawing a random sample of the general public from Edmonton and Calgary. Kuhn (1988) used 21 of the original 49 statements. Here, too, the environmental attitude scale proved adequate in measuring the respondents' environmental attitudes.

The findings of Van Liere and Noe (1981), Farbrother (1985), Jackson (1986), Rodgers (1987) and Kuhn (1988) all support the findings of Dunlap and Van Liere (1978,1984) and are consistent amongst each other in supporting the notion that the environmental attitude scales (NEP and DSP) developed by Dunlap and Van Liere (1978,1984) have predictive, construct and content validity. They represent a valid instrument for measuring environmental attitudes. In addition, all of these studies concluded that this instrument is a better predictor of environmental attitudes than socio-economic characteristics.

Due to this success, the environmental attitude scale used in the Jackson (1986) study was used in the present study, with some slight modifications. Also, the environmental attitude scale scores from Farbrother (1985), Jackson (1986), Rodgers (1987) and Kuhn (1988) were employed

for comparative purposes.

III. RESEARCH METHOD

In order to meet the research objectives outlined in Chapter I, a survey research method was chosen and employed. The specific details, strengths and weaknesses of its development and implementation are outlined in this chapter.

A. Sampling Frame

Study Group

There are many opportunities in western Canada for people to participate in guided wilderness canoe trips. These opportunities vary in many respects, with some being as short as a few hours while others may be up to six weeks in length. They also vary in their geographical locations from placid lakes to wild and raging rivers, from rivers that criss-cross the Canadian and American boundary of southern Canada to rivers that plunge into the Arctic Ocean from the islands in the Canadian High Arctic. For the purposes of this study, participants of guided wilderness canoe trips outfitted and guided by Nahanni River Adventures Ltd. (NRA) on the Nahanni River during the summer of 1991 were chosen for selecting the study population. For a full description of this guided wilderness canoe trip opportunity see Appendix 1.

This selection was made for several reasons. First, the

researcher has worked extensively with this company in many capacities, including guiding trips, and was therefore very familiar with the operation, enabling the design of a study that was realistic to implement in this specific situation. Second, the researcher's familiarity with the company enabled the establishment of full cooperation and support from the owner to carry out the study. Third, the researcher was able to participate as a guide in several canoe trips during the study period, which provided increased awareness and insight into the experiences of the respondents. Finally, the fact that NRA is an Edmonton based company made communication effective and efficient.

All those participants who had registered for a trip when the pre-experience questionnaire was distributed were asked to participate, thus eliminating the need for random sampling and sampling bias.

Control Group

Due to the experimental nature of the study, a control group was required. Because the sampling frame was limited in size it was not possible to select, randomly or otherwise, other individuals from the canoe trips to make up the control group. Therefore, a control group that was as representative of the sampling frame as possible was chosen.

Originally, there were two groups chosen to make up the control group: members present at the April meetings of the

Canadian Parks and Wilderness Association (CPAWS) and the Edmonton Natural History Club (ENHC). Fourteen individuals were recruited from the CPAWS meeting. However, the ENHC meeting was cancelled at the last minute due to a power failure at the meeting location. Consequently, another population needed to be quickly identified to complete the control group within the next 48 hours so that both groups could respond during a similar time frame.

Fortunately, the Flowing to the Futures Conference, a conference concerning the future of Alberta rivers, was taking place at this time in Edmonton and permission was granted to solicit the participation of those attending the conference to serve as members of the control group. The researcher attended the conference during the morning coffee break, lunch break and afternoon coffee break and approached as many individuals as possible during these times. Only once was a request for participation refused. There was no particular sampling technique used other than to try to involve as many individuals as possible.

B. Self-Completed Mail Questionnaire Method

The self-completed mail questionnaire technique was chosen over other possible techniques for several reasons. First, because participants in the canoe trips came from Canada, the United States, Europe, Australia and New

Zealand, this was clearly the most feasible approach. Second, because of the geographic distribution of the participants, personal interviews would only be possible when participants arrived in Ft. Simpson for the actual canoe trip. But because of the often limited time usually available and the unpredictable nature of northern travel, this too was unrealistic. Third, all these complications would be encountered twice, as both a pre-experience and a post-experience survey were necessary.

C. Questionnaires

Development and Content

The final questionnaires were developed in the following manner. First, a review of the literature relating to the measurement of attitudes and, specifically, environmental attitudes, was undertaken in order to locate a proven scale for environmental attitude measurement. Dunlap and Van Liere's (1978) environmental attitude scale, the New Environmental Paradigm (NEP), was chosen, slightly modified, and used in the study. This scale has been used successfully in other studies (Farbrother, 1985; Jackson, 1986; Kuhn, 1988; Rodgers, 1987) and chosen for that reason. In addition, the other sections of the questionnaires were developed based on information from other studies (Hanna, 1988; Sia et al., 1985; Sirek and Hungerford, 1990) related

to the prediction of pro-environmental behaviour and attitudes. Specific questions were also asked that related directly to the canoe trip experience being studied.

The pre-experience questionnaires (Appendix 2) were divided into six topical sections. In order of appearance, they are: Past Experience; Why the Nahanni River; Intended Wilderness Activity; Recent Wilderness and Environmental Preservation Activities; Environmental Attitude; and Personal Data. Each section began with a transitional statement which served to introduce the new topic providing connection and flow between the sections, as well as breaking up the monotony of the long questionnaire (Dillman, 1978).

The questions, and sections, were ordered in this way with several objectives in mind. First, the questions that respondents were most likely to deem useful and interesting were positioned at the beginning. Second, the first question was a neutral one being easily and quickly answered. Third, questions seeking personal data were placed last as this may be seen as too intrusive and irrelevant. Also, the questionnaires were reduced and photocopied in booklet form, (16x21cm) so that they would appear professional and short, and would reduce postage costs. Such care and consideration to detail was taken in the questionnaire development and design so that respondents would be interested and motivated to complete it, leading, hopefully, to increased response

rates (Dillman, 1978).

In addition, the cover letters (Appendix 3) were designed to communicate to the potential respondent that the study was addressing an important question and that they were in a position to provide crucial information to help answer it. As well, each letter was typed and personalized, (with personal name and address) and individually signed, on University of Alberta Department of Recreation and Leisure Studies letterhead. This was meant to show that the study was being undertaken in a professional manner (Dillman, 1978).

Types of Questions

In an attempt to reduce the tendency for self-completed mail questionnaires to lack meaning and depth through the use of strictly closed-ended questions, some open-ended questions were also asked-sometimes in conjunction with a closed-ended question (Table 3.1) and sometimes on their own (Table 3.2).

Closed-ended questions are frequently used in self -completed mail questionnaires because these types of studies often involve a large number of subjects, and closed-ended questions are easily coded allowing for simpler data processing and analysis. In order for a closed-ended question to be effective, all possible answers that the respondent may wish to give must be included. Obviously,

this was not always possible. For example, a closed-ended question which asks respondents to identify which outdoor recreation activities they have participated in the previous twelve months would likely have five or six possible answers (Table 3.3). However, if a respondents had participated in an activity other the ones listed, say climbing, this information would be lost. There could of course be an "other" category added but this would effectively result in an open-ended question. Therefore, open-ended questions must sometimes be used when all possible responses are either not known or too numerous to exclusively include. Open-ended questions have the strength of allowing the respondent greater freedom in answering the question, while their limitation lies in the fact that they are difficult to process and analyze (Weisberg and Bowen, 1977).

Pre-Test of Questionnaire

Once again, the small size of the sampling frame played a role in the pretest. Because there was a limited number of people in the sampling frame (71) to serve as the study group, none of these people could be employed to pretest the questionnaire under ideal conditions. Hence, a senior Recreation and Leisure Studies class at the University of Alberta was used as a pre-test, with the following objectives (Weisberg and Bowen, 1977): first, to check for grammar and spelling; second, to check for question clarity

TABLE 3.1

EXAMPLE OF CLOSED-ENDED QUESTION USED IN CONJUNCTION WITH AN OPEN-ENDED QUESTION

Q-41. Do you feel that your participation in a guided wilderness canoe trip on the Nahanni River will contribute to the preservation of that specific environment? (*Circle Number*)

1 NO
2 YES

Q-42. Please explain the reason for your answer to question 41. (*Fill in the Blanks*)

_____
_____
_____

TABLE 3.2

EXAMPLE OF AN OPEN-ENDED QUESTION BEING USED ON ITS OWN

Q-38. What do you feel it means to be environmentally concerned? (*Fill in the Blanks*)

_____
_____
_____

TABLE 3.3

EXAMPLE OF A CLOSED-ENDED QUESTION

Please identify the outdoor recreation activities that you have participated in during the previous twelve months. (*Circle Number[s]*)

1. Canoeing
2. Hiking
3. Camping
4. Swimming
5. Birdwatching
6. Skiing

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and wording; third, to check for questions that might be inappropriate for any reason; and, fourth, to check the time it took to complete the questionnaire. No major changes resulted from the pre-test, although there were several minor editorial changes.

D. Questionnaire Distribution

Study Group

The pre-experience questionnaires were mailed on Monday, May 6, 1991, to all participants registered at that time. This date was chosen for several reasons. First,

Mondays and Tuesdays have been identified as favourable days to mail questionnaires (Dillman, 1978). Second, early May has been identified as a good time of year for high response rates (Burton, 1990). Third, this would allow from six-and-a-half to sixteen weeks before the commencement of the participant's canoe trip (it is suggested that this time period is appropriate to truly reflect the participants' attitudes). The reason for the span of six-and-a-half to sixteen weeks prior to commencement is that the first canoe trip begins in late June while the last one of the summer begins in late August. Fourth, it is felt that this time period is long enough before the canoe trip that participants' attitudes will not be biased by anticipation nor will they be so busy preparing for it that they would not have time to complete the questionnaire. Finally, most of the participants for the summer have traditionally been registered by this time.

The majority of the questionnaires (58 of 71) were mailed directly to the participants. Some participants, however, had registered for the canoe trip through a travel broker and, as a result, their home addresses were not known. These questionnaires were sent to the travel broker with a letter (Appendix 3) requesting that they be forwarded to the appropriate participants, since travel brokers are reluctant to give out their clients' home addresses. In all 13 cases, the questionnaires were forwarded. This problem

was not encountered in the post-experience questionnaire mailing as home addresses were obtained during the trips.

A reminder card (Appendix 4) was mailed to all participants on May 31, 1991. However, reminders were not mailed to the 13 participants through the travel brokers. This reminder card was meant to serve as both a thank-you for those who had responded and as a friendly and courteous reminder for those who had not (Dillman, 1978).

The post-experience questionnaires (Appendix 5) were mailed on Tuesday, October 29, 1991. This day and date was chosen for similar reasons to the pre-experience mailing, in addition to meeting the project timelines. Questionnaires were mailed to only those individuals who had responded to the pre-experience questionnaire - a total of 44 participants. There were two individuals who responded to the pre-experience questionnaire that did not receive a second one because, in the end, they did not take part in the canoe trip (They are not included in the 44 mailed). A reminder card was mailed to those who had not yet responded on Tuesday, November 26, 1991. This reminder card was mailed with similar objectives to that for the first mailing.

Control Group

The pre-experience questionnaires (Appendix 6) were completed by two groups noted earlier: members present at the April 22, 1991, meeting of the Canadian Parks and

Wilderness Association (CPAWS) in Edmonton and individuals attending the Flowing to the Futures Conference in Edmonton, April 25-27, 1991.

The researcher attended the April 22nd meeting of CPAWS giving a brief overview of the study and asked for volunteers to participate. Fourteen people volunteered and the majority of them completed the questionnaire and returned it to the researcher that evening while some took it home and returned it by mail. Volunteers to participate in the study from the Flowing to the Futures Conference were solicited April 25th in the evening and throughout the day on April 26, 1991. No reminder cards were sent to either of these groups as their home addresses were not known.

The dates for the pre-experience data collection were chosen for the following reasons. First, in accordance with the experimental nature of the study it was necessary to collect the data for both the study and control groups during a similar time frame. Second, this was a time when the control groups were available (monthly meeting and conference gathering).

The post-experience questionnaires for the control group (Appendix 7) were mailed to all those individuals who included their home address when they returned the pre-experience questionnaire as they were instructed in the cover letter. Of the 38 pre-experience questionnaires returned, six did not include home addresses. Questionnaires

were mailed Tuesday, October 29, 1991, with reminder cards following on November 26, 1991.

E. Responses to the Survey

Response Rates

Response rates for the study are summarized in Table 3.4. A response rate of more than 50 percent on a self-completed mail questionnaire is considered acceptable while 60 percent is good and 70 percent is very good (Babbie, 1989). Therefore, with the exception of the control group on the pre-experience questionnaire, the response rates for this study are clearly acceptable.

The response rates for the post-experience questionnaires are somewhat interesting and unexpected. The low response rate from the study group (59 percent) is surprising, because all of these individuals had taken considerable time and shown an interest in the study by completing the first questionnaire. Therefore, it would seem likely that the response rate would increase for the post-experience questionnaire as the sampling frame is composed of only those who responded the first time. None of the individuals who did not respond the second time were known to have had a particularly different experience on the river than any of the other participants. Indeed, many of the participants who did not respond the second time were known

TABLE 3.4

QUESTIONNAIRE RESPONSE RATES

PRE-EXPERIENCE RESPONSE:

Control Group

Distributed = 71
Returned = 38
Unusable* = 6
Total Useable = 32

Useable Return Rate = 45.0%

* Unusable because return addresses were not included.

Study Group

Distributed = 66
Returned = 47
Unusable* = 3
Total Useable = 44

Useable Return Rate = 66.0%

* One was unusable because it was returned undelivered. Two were unusable because the individuals did not participate in the canoe trip.

POST-EXPERIENCE RESPONSE:

Control Group

Distributed = 32
Returned = 29
Unusable* = 1
Total Useable = 28

Useable Return Rate = 87.5%

* Was returned undelivered because individual had moved.

Study Group

Distributed = 44
Returned = 26
Unusable = 0
Total Useable = 26

Useable Return Rate = 59.0%

to have had a very positive experience. It could very well be that the pre-trip anticipation factor was a greater motivator for responding than the post-trip recollection factor (Clawson and Knetsch, 1966). Also, because many of the participants are professional people it could be that their professional lives simply did not allow time for completion of the second questionnaire.

The high response rate for the post-experience questionnaire for the control group (87.5 percent) is initially surprising. However, perhaps it is not so surprising, considering that this group was generally more active in environmental issues than the study group and might have seen this as another opportunity to express their attitudes and concerns for the environment. In addition, 21 of the 32 (65.6 percent) individuals in the control group requested a summary of results compared to only 12 of 44 (27.2 percent) of the individuals in the study group, which would indicate a greater interest in the study by the control group than the study group and is likely reflected in the response rates.

F. Data Processing and Analysis

The data processing and analysis took place in four stages. First, all open-ended questions were hand written onto small pieces of paper so that all answers to each

question could be easily compared and categories established. Second, a detailed code book for the closed-ended questions was developed (Appendix 8) and then these questions were coded and entered on a Lotus spreadsheet. Third, this Lotus spreadsheet was downloaded onto the University of Alberta's Michigan Terminal System (MTS). Fourth, once on the MTS system, the data were analyzed using the Statistical Package for the Social Sciences (SPSS Inc. 1983).

Descriptive statistics (univariate analysis) were used in the initial analysis and interpretation of the data. Chi-square tests of association (bivariate analysis) were used to determine the presence or absence of relationships between selected variables in the pre and post-experience surveys.

An a priori probability level of 0.05 was adopted for all comparisons. A relationship that tests significant at the 0.05 significance level is the result of chance only 5 times in a hundred (Babbie, 1989). Due to the small size of the study and control groups, relationships that are not statistically significant at the 0.05 level is not necessarily an indication of their absence. In other words, there may be a very real relationship between a pre and post-experience variable but there is insufficient power to detect significance (Cohen, 1988). It is in these situations that the answers to the open-ended questions are

particularly important because they allow the researcher additional insight into the relationship. This use of the open-ended questions provides a richness that would otherwise be missing from the study.

IV. DATA RESULTS AND DISCUSSION: PRE-EXPERIENCE

A. Introduction

The data presented in the next two chapters represent the culmination of the collection and analysis process described in Chapter III. Specifically, this chapter deals with the information from the pre-experience questionnaire while chapter V deals with the information from the post-experience questionnaire.

First, in order to understand both groups of respondents their socio-economic characteristics and past wilderness experiences will be outlined. Next, their intended wilderness activities will be described followed by their most recent wilderness and environmental preservation activities. Then, respondents will be depicted regarding their environmental attitudes and the impact a Nahanni trip might have for themselves, or, in the case of the control group, for participants. Only those individuals who responded to both questionnaires were included in the analysis and subsequent discussion. Results from the study and control groups are given simultaneously throughout this chapter.

B. Description and Profile of Respondents

Socio-economic Data

Seventy-six percent of the study group were residents of Canada while the remaining 24 percent were residents of the United States. All members of the control group were residents of Canada. Because the respondents from both groups were largely from Canada (88.7 percent), their characteristics will only be compared to those of other Canadians. Although there are some variations between the characteristics of Canadians and Americans, they are not great enough to nullify the purposes of this study.

Forty-eight percent of the study group were males, while 52 percent were females. Grimm (1987), in a study of river users in Nahanni National Park from 1984 to 1986, found a sex distribution of 76.7 percent male and 23.3 percent female. Hvenegaard (1989), in a study of birders at Point Pelee National Park, and other studies of nature oriented tourism have found a male-dominated distribution similar to that found by Grimm (1987). The present study group was very similar to the Canadian population in 1986, 49 percent males and 51 percent females (Statistics Canada, 1987). It is suspected that the present study group was similar to the Canadian population and differs from other related studies because there is a tendency for guests to participate in this type of canoe trip with a spouse or

significant other. Most of the private groups the researcher has encountered on the Nahanni River since 1985 have been male-dominated; this was reflected in the findings of Grimm (1987). The control group was clearly male-dominated, 71.4 percent male to 28.6 percent female. Although the study and control groups differed in their gender make-up, this difference was not statistically significant (X^2=2.13, df=1, p=.14).

The mean age of the study group was 49.5 years, (range 15-71 years) which was higher than that found by Grimm (1987); in his study 65.3 percent were 25-to-44 years old. The mean age for this study group was nearly identical to those of Hvenegaard (1989): 49.3 years, and only slightly lower, 2.5 years, of that found by Snepenger and Moore (1989) in a study of arctic tourists to Alaska. However, it was substantially higher than the Canadian average of 41.5 years, for those over 15 years of age (Statistics Canada, 1987). The mean age of the control group was 40.1 years (range 18-66). Again, the study and control group differences were not statistically significant (X^2=38.62, df=33, p=.23).

The majority of the study group were married (64 percent) while 28 percent had never been married. This again is similar to the findings of Snepenger and Moore (1989). Grimm (1987) and Hvenegaard (1989) did not report this characteristic. In the control group, 68 percent were

married, 21 percent were never married and 11 percent were divorced. The difference between the two groups was not statistically significant (X^2=2.17, df=3, p=.53).

Fifty-six percent of the study group reported having dependent children, very similar to the control group which reported 53.6 percent having dependent children (X^2=.00, df=1, p=1.00).

Seventy-two percent of the respondents presently live in an urban setting, 18 percent live in a rural non-farm setting, while 8 percent live in a small town, and 4 percent on a farm. These findings are similar to those of Hvenegaard (1989) and Manning (1986). Manning (1986) found, through summary of other research, that urban residents are generally more active in all recreational activities than rural residents. The control group was made up of 78.6 percent urban residents, 7.1 percent for both small town and rural non-farm, and 3.6 percent for both farm and other. The study and the control groups did not differ significantly (X^2=1.90, df=4, p=.76).

Fifty-two percent of the respondents in the study group spent most of their childhood in an urban setting, while 36 percent spent it in a small town. Four percent grew-up in a rural non-farm setting and 8 percent in a farm setting. In the control group, 60.7 percent grew-up in an urban setting, with 14.7 percent in a small town. In addition, 17.9 percent spent most of their childhood on a farm, while 3.6 percent

spent it in some other setting. Again, the groups were similar (X^2=5.67, df=4, p=.22).

Consistent with other studies in outdoor recreation and nature tourism (Hvenegaard, 1989; Snepenger and Moore, 1989; Grimm, 1987; Manning, 1986), the respondents in this study group were well educated. Thirty-two percent held a bachelor's degree, while 8 percent had some post graduate education and 28 percent held a post graduate degree. This is considerably higher than the Canadian average. Only 10 percen of Canadians over 15 years of age hold a minimum of a bachelor's degree (Statistics Canada, 1988a). These findings are consistent with those of Hendee et al. (1971) who suggest that participation in activities dependent on the natural environment are dominated by the highly educated, and with Swinnerton (1982) who similarly suggests that the highly educated are more likely to participate in a wide variety of outdoor recreation activities.

The control group was also well educated. About one-third (35.7 percent) held a bachelor's degree, 14.3 percent had some graduate education, and 32.1 percent held a post-graduate degree. Although the control group had a higher level of education, the difference was not statistically significant (X^2=7.59, df=5, p=.18).

Although 16 percent of the respondents did not supply income data, clearly, the study group was among the highest income earners in Canada. Forty-four percent had a gross

household income of $110,000 or more annually, while 32 percent reported between $50,000 and $89,999. This is considerably more than the Canadian average of $37,827 (Statistics Canada, 1988b). Grimm (1987), Manning (1986) and Hvenegaard (1989) also report mean incomes well above the national average. The control group also had an annual gross household income above the national average, although somewhat lower than the study group: 7.1 percent reported $90,000 to $109,999, while 50.3 percent reported between $50,000 and $89,999. Clearly, the study group members were higher income earners than the control group and was reflected in the statistics (X^2=23.01, df=6, p=.00).

Past Wilderness Experiences

The purpose of the group of questions dealing with past wilderness experience was to obtain a general insight into the experiential backgrounds of the respondents. Without exception, this was the first trip to Nahanni National Park for all members of the study group. However, 28 percent had been on other guided trips; of these, 80 percent had been on only one or two. Therefore, for the large majority, this was a relatively new experience. A small proportion (7.1 percent) of the control group had been to Nahanni National Park in the past but only one person had travelled down the river. Twenty-five percent of the control group had previously participated in a guided wilderness canoe trip.

Of these, 14.3 percent had been on one or two trips while 7.1 percent had been on three or four. There was one incidence of missing data. Clearly, the two groups had similar experience with guided wilderness canoe trips (X^2=9.89, df=1, p=.00).

Over half the study group (62.5 percent) and most of the control group (89.3 percent) had participated, as a child or adolescent, in one of either: family camping (auto), family camping (primitive) or wilderness camping. In fact, 48 percent of the study group and 75 percent of the control group had participated in one or both of the latter two. The control group had significantly more experience in family camping (auto) as seen in Table 4.1. This was similar to the findings of Hendee et al. (1968, cited in Newhouse, 1990), who noted that 70 percent of all wilderness users went on their first backcountry trip before the age of 15.

As a child or adolescent, 72 percent of the study group and 82.1 percent of the control group had been involved in outdoor education/recreation programming offered through one or more of the following organizations: scouts/guides, boys and/or girls clubs, Y.M.C.A./Y.W.C.A., 4-H, municipal camps, church camps, school camps or some other formal camp experience. The two groups did not differ statistically in their involvement (Table 4.2). The two most frequently mentioned were church camps and scouts/guides; 40 and 36 percent and 32.1 and 46.4 percent for the study and control

groups respectively. It is possible that some had their first backcountry experience here rather than in the family setting, lending more support to the findings of Hendee et al. (1968, cited in Newhouse, 1990). Nevertheless, members of the control group had been more involved in camping and outdoor education/recreation programming during their childhood and adolescence.

TABLE 4.1

TYPES OF CAMPING PARTICIPATED IN AS CHILDREN OR ADOLESCENTS: A SUMMARY OF CROSSTABULATIONS BY GROUP (NUMBER OF YES RESPONSES)

Type of Camping	Study Group (n=25)	Control Group (n=28)
Family Camping(auto)[a]	8	20
Family Camping(primitive)[b]	7	11
Wilderness Camping[c]	11	9

[a] $X^2=6.73$, df=1, p=.00
[b] $X^2=.33$, df=1, p=.56
[c] $X^2=.36$, df=1, p=.54

Fifty-six percent of the study group and 89.3 percent of the control group had subscribed to one or more outdoor recreation or environmental magazines or journals in the past two years. The average number subscribed to (of those

TABLE 4.2

CHILDHOOD AND ADOLESCENT INVOLVEMENT IN OUTDOOR EDUCATION/RECREATION PROGRAMMING FROM A VARIETY OF ORGANIZATIONS: A SUMMARY OF CROSSTABULATIONS BY GROUP (NUMBER OF YES RESPONSES)

Organization	Study Group (n=25)	Control Group (n=28)
Scouts/Guides[a]	9	13
Boys and/or Girls Club[b]	0	1
Y.M.C.A./Y.W.C.A.[c]	3	2
4-H[d]	0	2
Municipal Camps[e]	3	3
Church Camps[f]	10	8
School Camps[g]	3	5
Other Formal Camp Exp.[h]	4	3

[a] $X^2=.24$, df=1, p=.62
[b] $X^2=.00$, df=1, p=1.00
[c] $X^2=.01$, df=1, p=.89
[d] $X^2=.40$, df=1, p=.52
[e] $X^2=.00$, df=1, p=1.00
[f] $X^2=.34$, df=1, p=.56
[g] $X^2=.04$, df=1, p=.83
[h] $X^2=.02$, df=1, p=.87

who subscribed) was 2.4 with Canoe (4) and Canadian Geographic (4) magazines being the most frequently mentioned. Similarly, the average number subscribed to by the control group was 2.7 with Canoe mentioned 4 times and

Canadian Geographic mentioned 5 times. However, the two most frequently mentioned, by the control group, were Borealis (11), which is published by the Canadian Parks and Wilderness Association, and Explore (8). Statistically, the groups were significantly different in this respect (X^2=5.05, df=1, p=.02), with the control group being more frequent subscribers.

Sixty-four percent of the study group and 85.7 percent of the control group had belonged to an outdoor recreation or environmental club or organization in the past two years. The average number belonged to (of those who belonged) was 2.1 with a naturalist or nature oriented club being the most frequently mentioned (8). Although a larger percentage of the control group were club members, they were similar in average club membership at 2.4, with wilderness associations (12) and naturalist or nature oriented clubs (9) being the most frequently mentioned. The two groups were not statistically different in this regard (X^2=3.28, df=1, p=.07).

Forty-four percent of the study group and 82.1 percent of the control group had been actively involved in some environmental issue over the past two years. The most common issue was some form of land preservation (5) and the most common involvement was through financial support (7), which is not surprising in light of the income level of this group. In the control group, the most common issue was also

some form of land or river preservation (15) followed by pulp mills (10). The most frequently mentioned involvement was to write letters (16) with attending hearings and rallies (15) a close second. Clearly, the control group was more involved in more issues than the study group; this notion was supported statistically (X^2=6.00, df=1, p=.01).

The majority (72 percent) of the study group had never taken a conservation/environmental course; 20 percent had taken one to five. Comparatively, only 21.4 percent of the control group had never taken such a course, while 53.6 percent had taken between one and five. In addition, 24.9 percent had taken more than six and 7.1 percent more than 21. Sia et al. (1985/86) found that the number of conservation/environmental courses taken was one of several significant predictors of responsible environmental behaviour among members of the Sierra club, who they determined had responsible environmental behaviour. These findings appear to hold true here as the control group has clearly taken more courses (X^2=15.78, df=1, p=.00).

Intended Wilderness Activity

Sixty percent of the study group reported that they were either very likely or somewhat likely to travel into a wilderness area, other than the Nahanni, over the next twelve month period, while 40 percent reported that they were not too likely or not at all likely. The control group

intended to be much more active with 89.3 percent reporting very likely or somewhat likely; nobody responded not at all likely. Indeed, this was supported statistically (X^2=8.14, df=3, p=.04).

The activities most commonly planned by the study group were: canoeing (10), hiking (9) and camping (7). Similarly, the control group reported hiking (16), camping (13) and canoeing (12) highest among intentions. Contrary to expectations, only 28 percent of the study group and 46.4 percent of the control group reported camping as an intended activity. Yet, when asked if camping was one the activities they were planning, 56 percent of the study group and 50 percent of the control group reported that minimum impact camping was the type they intended to use. It is therefore assumed that some of the individuals who reported hiking, canoeing, and perhaps other activities, assumed that camping is an inherent component of that activity. Nevertheless, the groups were similar, though not identical, in their intended modes of camping with minimum impact camping being the most popular form of camping planned by both groups (Table 4.3).

Sixty-four percent of the study group and 60.7 percent of the control group reported that they were either not at all likely or not too likely to join an outdoor recreation or environmental club or organization over the next twelve month period. Hence, 36 percent of the study group and 35.7 percent of the control group reported they were either

somewhat likely or very likely. Although the two groups are similar in this area, their relationship was not statistically significant (X^2=1.16, df=3, p=.76).

TABLE 4.3

TYPES OF INTENDED CAMPING MODES TO BE USED IN THE NEXT TWELVE MONTHS: A SUMMARY OF CROSSTABULATIONS BY GROUP (NUMBER OF YES RESPONSES)

Types of Intended Camping	Study Group (n=25)	Control Group (n=28)
Auto Camping, High Access Campground[a]	4	10
Survival Camping (Natural Shelter Building, use of Fires)[b]	0	1
Minimum Impact Camping, High Technology (Use of Stoves, Tents)[c]	14	14
Combination Survival and Minimum Impact[d]	2	9
Other[e]	0	1

[a] X^2=1.72, df=1, p=.18
[b] X^2=.00, df=1, p=1.00
[c] X^2=.02, df=1, p=.87
[d] X^2=5.91, df=2, p=.05
[e] X^2=.00, df=1, p=1.00

The large majority of the study group (92 percent) reported they were not too likely or not at all likely to take an environmental or environmental leadership course

over the next twelve month period, compared to 75 percent of the control group. This difference was not a statistically significant one (X^2=2.73, df=3, p=.43). Similarly, 84 percent of the study group compared to 78.6 percent of the control group reported that they were not at all likely or not too likely to subscribe to a new outdoor recreation or environmental magazine or journal over the next twelve month period. Again, their difference was not statistically significant (X^2=1.16, df=3, p=.76).

There was a less defined division in the study group between those who were and were not likely to become actively involved in an environmental issue over the next twelve month period. Fifty-two percent reported that they were either very likely or somewhat likely to do so, while 48 percent reported either not too likely or not at all likely. The issue most commonly mentioned for potential involvement was once again some form of land preservation (5). However, the most commonly mentioned form of involvement was writing letters (5) and attending meetings (4) with only one person mentioning giving financial support. The control group differed markedly in this respect, with 89.3 percent reporting that they were very likely or somewhat likely to become actively involved. This reflects the greater commitment and concern this group has for the environment and was support statistically (X^2=10.36, df=3, p=.01).

When asked if the Nahanni River were in some way threatened and would they lobby for its survival, the overwhelming majority (88 percent of the study group and 75 percent of the control group) claimed that they were either very likely or somewhat likely to lobby for its survival. Although the study group was stronger in this regard, both groups would definitely help preserve the Nahanni as reflected by the statistics (X^2=1.18, df=3, p=.75).

Recent Wilderness and Environmental Preservation Activities

Although this group of questions was very similar to the one regarding past wilderness experience, its purpose was distinctly different. The intention of this group was to provide a reference point against which post-experience responses can be compared.

During the past twelve months, 52 percent of the study group and 71.4 percent of the control group reported having travelled into a wilderness area. This difference was not statistically significant (X^2=1.37, df=1, p=.24). Canoeing, hiking and camping were once again the most commonly mentioned activities. Skiing was also quite common which was not surprising because the questionnaire was answered in May following the winter season. Minimum impact camping - 36 percent for the study group and 53.6 percent for the control group - was the most popular form of camping reported, which

was again more camping than was reported as an activity itself. The two groups did not differ significantly in the types of camping they had used in the previous twelve months (Table 4.4).

TABLE 4.4

TYPES OF CAMPING MODES USED IN THE PREVIOUS TWELVE MONTHS: A SUMMARY OF CROSSTABULATIONS BY GROUP (NUMBER OF YES RESPONSES)

Types of Camping Modes	Study Group (n=25)	Control Group (n=28)
Auto Camping, High Access Campground[a]	3	6
Survival Camping (Natural Shelter Building, use of Fires)[b]	0	1
Minimum Impact Camping, High Technology (Use of Stoves, Tents)[c]	9	15
Combination Survival and Minimum Impact[d]	1	5
Other[e]	2-Way Table Empty	

[a] $X^2=.29$, df=1, p=.58
[b] $X^2=.00$, df=1, p=1.00
[c] $X^2=1.01$, df=1, p=.31
[d] $X^2=1.33$, df=1, p=.24
[e] 2-Way Table Empty

Only 8 percent of the study group and 17.9 percent of the control group had participated in an environmental or

environmental leadership course during the previous twelve months. This seemed to be of more interest to the control group than the study group yet the difference was not statistically significant (X^2=.35, df=1, p=.55).

Of the 56 percent of the study group who subscribed to an outdoor recreation or environmental magazine or journal, only 8 percent had subscribed to a new one in the previous twelve months. The corresponding figures for the control group were 89.3 percent subscribers, 28.6 percent of whom had subscribed to a new journal in the previous twelve months. Again, this was not a statistically significant difference (X^2=2.87, df=1, p=.09).

Environmental Attitudes

This group of questions was meant to measure the environmental attitudes, of both groups, using the attitude scale based that used by Jackson (1986), which was described in chapters II and III. As well, several questions addressed the respondents' feelings regarding pro-environmental concern and behaviour.

In order to provide a context for the scores on the environmental attitude scale, they have been plotted in a table together with scores from other studies (Farbrother, 1987; Jackson, 1986; Kuhn, 1988; Rodgers, 1985), all of which used similar scales. Adjustments have been made to the scores from the Rodgers (1985), Farbrother (1987) and Kuhn

(1988) studies because they did not use 24 questions, as did Jackson (1986) and the present study.

The scale is scored from one to five so that a low number represents a pro-environmental attitude, while a high number represents an anti-environmental attitude (Table 4.5). The scores given are mean scores for each sample group from the respective studies.

TABLE 4.5

ENVIRONMENTAL ATTITUDE SCALE SCORES

Study	Mean[1]	SD	n
Rodgers (1985)			
Environmentalist	2.04		
General Public	2.63		
Business Sample	2.89		
Jackson (1986)			
General Public	2.64		
Farbrother (1987)			
General Public	2.86		
Kuhn (1988)			
General Public	2.55		
Asfeldt (1992)			
Study Group (Pre-test)	2.37	.44	25
Control Group (Pre-test)	2.02	.50	28

[1] **low score indicates pro-environmental and a high score indicates anti-environmental. (Potential range = 1-5)**

The scores from the different studies show that the study group, from the present study, had slightly more pro-

environmental attitudes than the general public samples from Rodgers (1985), Jackson (1986), Farbrother (1987) and Kuhn (1988) and that their environmental attitudes were slightly less pro-environmental than the environmentalist group from (Rodgers, 1985) study, as well as this study's control group. This is not surprising as it is expected that a participant in a guided wilderness canoe trip of the kind studied would have to be somewhat interested in the natural environment to even be interested in participating. Also, the fact that their scores were slightly less pro-environmental than the environmentalist groups is not surprising, as the latter individuals would be among society's most pro-environmentally minded people.

The score of the control group is not surprising either in that membership in a pro-environmental association and voluntarily attending a workshop that focused on the future of Alberta's rivers assumes an interest in the environment. Hence, these people, too, would likely be among society's most environmentally minded. Undoubtedly, there were some people in attendance at the workshop that were required to be present because of their employment. These people could be either for or against the development of rivers, but the results of the environmental attitude scale suggests that they would support river preservation.

There was a myriad of answers given by both groups to the question: What do you feel it means to be

environmentally concerned? Many responses contained more than one idea. Therefore, themes were identified from the answers and grouped together. Three or more of the same theme were required to form a group. Of the 25 study group members who responded, three chose not to answer this particular question. In the remaining 22 questionnaires, 33 themes were identified. Of these, 20 focused on the idea of being aware and involved. Some examples of responses are:

> *[T]o be aware of how the 'needs' of the environment conflict or harmonize with the 'needs' of people.*
>
> *[A]ware of individual and collective impact on the world around and aware of ecological relationships in nature.*
>
> *[A]ctively involved in issues.*
>
> *Be aware of information that is correct - speak out if concerned.*

The next largest group (4) focused on recycling and were explicitly stated as such. The remaining 13 responses were so varied that further groupings could not be made.

All but one of the members of the control group replied to this question, resulting in 43 ideas that formed 6 theme groups. The largest theme group contained three key words in reference to the environment: awareness, appreciation and value. Examples are:

> *Have an appreciation for the value of environmental*

issues and how they affect your quality of life.

[D]evelop an awareness and understanding of environmental principles.

[A] matter of awareness and values.

The next largest theme group was concerned with living in an environmentally friendly manner and being willing to make personal sacrifices (8). Three examples are:

[T]o change one's habits and lifestyle to conform as far as possible to healthy environmental practices.

[W]illing to make personal sacrifice for the environment.

[T]o be aware of the natural environment and in your daily life try to impact them as little as possible.

Similar to the themes identified in the study group, recycling was also mentioned (3). Other themes that emerged were being willing to get involved (6); educate yourself (4); and preserving wilderness for future generations (3). The control group showed a wider range of themes that were generally more action and involvement oriented than the study group.

The next question asked was to identify three key behaviours or actions that respondents felt reflected an environmentally concerned individual. Again, there were many answers given and they were grouped into like groups that received three or more responses. Of the 25 study group

respondents, 3 chose not to answer the question. The most common behaviour mentioned by the remainder was recycling (9), followed by decreasing pollution (7), and, then, joining a group (5), being educated and aware (5) and having a respect for nature (5). Table 4.6 outlines all of the behaviours identified by the study group.

TABLE 4.6

KEY BEHAVIOURS OR ACTIONS THAT REFLECT AN ENVIRONMENTALLY CONCERNED INDIVIDUAL
Study Group

Behaviour	Number of Responses
Recycle	9
Decrease pollution	7
Join a group	5
Be educated and aware	5
Respect for nature	5
Decrease use of fossil fuel	4
Preservation/conservation	4
Lobby government	3
Decrease packaging	3
Other	10
TOTAL	**46**

n=25

The control group's responses formed similar themes to the study group but with higher and different frequencies. The most commonly mentioned behaviour was to be personally active with time and money in supporting the environment (15). Next were recycling (10), and decreasing resource consumption (10), followed by being politically active (7), and educating oneself (7). Generally, the control group was more enthusiastic in answering this question resulting in more behaviours being identified and, subsequently, more themes identified (Table 4.7).

TABLE 4.7

KEY BEHAVIOURS OR ACTIONS THAT REFLECT AN ENVIRONMENTALLY CONCERNED INDIVIDUAL
Control Group

Behaviour	Number of Responses
Personally Active	15
Recycle	10
Decreasing Consumption	10
Politically Active	7
Educate oneself	7
Experience Wilderness	4
'Green' Shopping	3
Other	20
TOTAL	**76**

n=28

Members of the study group felt that they were presently concerned about the environment. When asked specifically how environmentally concerned they presently were, 96 percent claimed to be very concerned or somewhat concerned while the remaining 4 percent were not too concerned. Nobody reported being not at all concerned. The control group also felt concerned with the environment with 96.4 percent reporting that they were either very concerned or somewhat concerned. There was one case of missing data. Although the control group had more people respond "very concerned" (62.9 percent) than the study group (48 percent), this was not a statistically significant difference (X^2=1.96, df=2, p=.37).

Anticipated Impact of Nahanni Trip

This group of questions focused on what impact the study group felt their participation in the Nahanni trip would have for the preservation of the Nahanni specifically, as well as for other natural environments. Both open and closed ended questions were used to gauge their feelings.

Nearly twice as many study group members (64 percent) felt that their participation in a Nahanni trip would contribute to the preservation of that specific environment compared to those who felt it would not (36 percent). There were three themes reflected in the open-ended portion of this question. The first was that the experience would raise

their awareness of the area, causing them to become supporters of its preservation. This was evident in responses such as:

> *[W]ith a raised awareness of the Nahanni - I will be an obvious supporter of its protection.*
>
> *[S]eeing, experiencing and enjoying the wilderness makes one work to preserve it.*
>
> *Increased awareness of the area and perhaps a desire to return one day would make one more protective of the area.*

A second theme reflected in the responses was that participation in a guided trip would have a minimal amount of environmental impact. In other words, although a guided trip will have some impact on the environment it will be less than many private trips. Examples of such responses are:

> *[A] guided trip will ensure the least amount of environmental impact.*
>
> *I think a trip with an environmentally conscious guide would have less negative impact than a group who is not so knowledgeable on ways of preservation.*

A third theme had to do with the guides who, it was felt, had a vested interest in the area and would therefore ensure that it remained undisturbed, as seen in these comments:

[G]uides have interest in keeping the environment unchanged.

[M]ore business, more chance they'll keep it the same.

Because the number of participants responding "no" to this question was quite small (9), there were not many themes identified for this group. However, one theme that did reveal itself was that the best way to preserve the Nahanni was likely to simply stay away.

[B]ecause I am one more intruder into that environment.

[I]ts probably best preserved if left alone. I'm already doing as much as I feel I can to defend the environment.

Probably already too many people going through the Nahanni and ruining it.

Generally, the study group felt that participation in the canoe trip would be beneficial to the preservation of the Nahanni.

The control group was asked the same question and responses coincided closely with the study group. The difference between the two group in the "yes/no" portion of the question was not statistically significant (X^2=2.92, df=2, p=.23). Most of the control group (57.1 percent) felt that participation in such a canoe trip would contribute to the preservation of that specific environment. Two themes were observed in the open-ended portion of the question, the

first emphasising the importance of experiencing wilderness (11):

> *Most people experience the largest impact through actually 'being there'. There is a greater appreciation and impression left in the minds of the individuals who have been there.*
>
> *I strongly believe that the personal experience of wilderness is the most genuine and reliable motivator for protecting it.*
>
> *[P]reservation goes from being a concept to being a reality when the environment is experienced personally.*

The other theme identified was somewhat conditional in that it stressed the need for the trip to be conducted in a environmentally sensitive manner (3).

> *[I]f guided in an environmentally conscious and sensitive way, a canoe trip experience should instill and emphasize a valuing of that environment.*
>
> *[I]f the guided trip is conducted in an environmentally conscious manner (ie. hauling out trash) this example will inform the participants of practical application of environmental rules in the wilderness.*

The open-ended responses from the people who said "no" and "maybe" were so varied and few that no themes could be developed. The control group, too, generally felt that participation in such a canoe trip would be a positive contribution to the preservation of the Nahanni.

The next question was meant to further address the notion that participation in outdoor recreation promotes

people to seek preservation of particular environments required for the activity in which they are involved. Specifically, the question asked: Do you feel that your participation in a guided wilderness canoe trip on the Nahanni River will contribute to the preservation of other natural environments? Responses were similar to the previous question and again the two groups did not differ significantly (X^2=.18, df=2, p=.91). Sixty percent of the study group said "yes" while 32 percent responded "no" and 8 percent circled both "yes" and "no" which was interpreted as "maybe". Again, due to the small sample size not many themes were identified. However, one that was identified from the "yes" respondents was that increased awareness, appreciation and concern would result from the experience, as revealed in the following comments:

> *I will likely appreciate our wilderness more by seeing it first hand and so could speak from this first hand experience.*
>
> *[H]opefully become more concerned and conscious of the problems.*
>
> *[I]n the sense it might enhance my already intense appreciation of the outdoors.*

Closely related to this theme was one which suggests that this increased awareness, appreciation and concern will be transferred to other environments as well.

Increased awareness of the wilderness in one place would translate to other areas as well.

[O]ne natural environment is as precious as another. Experiencing the Nahanni will instill a will to preserve all natural environments.

[E]xperiencing the unspoiled Nahanni area will make me more aware of the beauty of our environment in its undisturbed state.

Only one theme was identified from members of the study group who responded "no". This was that they were already concerned with the environment and the trip would not change their attitudes or beliefs. Examples of this theme are:

I am already aware of the need for preservation, so this trip won't change my beliefs.

[T]here is no necessary relationship, and my general attitudes to preservation are probably already formed, and this involved some activity in preserving environments.

Interestingly, two members of the study group who felt that their participation would not contribute to the preservation of the Nahanni suggested that it would contribute to the preservation of other environments. Likewise, two participants who felt that their Nahanni trip would contribute to the preservation of that specific environment felt that it would not contribute to preservation of other natural environments.

Responses from the control group were also similar to their response to the previous question. Like the study

group, one theme that evolved from the open-ended questions of the "yes" respondents was that the appreciation and concern for one wilderness will transfer to others as well.

> *The concept/reality is more readily transferred to other (similar) environments once it is experienced on the Nahanni, for example.*
>
> *A concern and caring for one wilderness area as a result of a wilderness experience will be extended to similar other wilderness areas that will be equally valued even though they weren't experienced.*

While not all members of the control group felt that participation in a guided wilderness trip would contribute to the preservation of other environments, like the study group, the majority did. Again, analogous to the study group, the control group felt that the increased awareness and appreciation gained through the canoe trip experience is central to subsequent preservation.

Summary

The study group was composed almost equally of both genders and was older than the national average. The majority were married and just over half had dependent children. Most grew up and still live in an urban setting and had an education and income that were well above the average for Canada. Generally, this group was similar in socio-economic characteristics to other studies of outdoor recreationalists, wilderness users and ecotourists. The

control group was comparable to the study group differing only by being male-dominated, younger, somewhat more urban-oriented with a higher average level of education yet a lower average annual income. However, only the difference in annual income was statistically significant.

This was the first trip to the Nahanni for all members of the study group, although some had been on other guided trips. The majority had had some form of wilderness experience during their childhood or adolescence, and intended to travel into the wilderness again in the next twelve months. Of those who planned to camp, minimum impact camping was the most popular form. Most of the study group belonged to some outdoor or environmental club as well as subscribing to a similar magazine or journal. About half the study group had previously been involved in an environmental issue, and, about half also felt that they were likely to become involved in such an issue in the future.

The control group was again broadly comparable, but differed statistically in that they had been more involved as children and adolescents in family camping (auto), more frequent subscribers to outdoor and environmental journals and magazines, had been more actively involved in environmental issues, had taken more conservation/environmental courses. In addition, they had greater intentions to actively involved in future environmental issues and to travel into wilderness areas.

The study group was more environmentally minded than the general public, yet less environmentally minded than the control group and members of other pro-environmental groups. Generally, both groups felt that they were concerned about the environment and thought that participation in a Nahanni trip would contribute to both the preservation of that specific environment, as well as other natural environments.

V. DATA RESULTS AND DISCUSSION: POST-EXPERIENCE

A. Introduction

This chapter describes the information gathered from the post-experience questionnaire. First, the respondents' intended wilderness activities will be summarized followed by an outline of their recent wilderness and environmental preservation activities. Then, their environmental attitudes will be identified, followed by their personal feelings and opinions regarding the impact of their Nahanni trip. Throughout this chapter, comparisons between pre and post-experience survey responses will be made when they are found to be significant or conspicuous by their insignificance. In addition, results from the study and control groups are given simultaneously throughout both sections as well as comparions between pre and post-experience quesitonnaire when appropriate.

B. Description and Profile of Respondents

Intended Wilderness Activities

The purpose of this group of questions was to determine if there had been any significant changes in the intended wilderness activities of the two groups over time - in particular, the study group. All members of the study group participated in a guided wilderness canoe trip on the

Nahanni River during the study period. The average trip length for the study group was 13.3 days (range 6 - 21). The average trip length for all visitors to Nahanni National Park for the 1991 summer was 13.4 (this includes both private and commercial trips) (Parks Canada, 1991). Although there was no data indicating the length of any trips taken by members of the control group, 60.7 percent did participate in some form of wilderness experience during the study period.

Eighty-four percent of the study group reported that they were very likely or somewhat likely to travel into a wilderness area in the next twelve months. This was an increase of 24 percent over the pre-experience findings. This was a statistically significant change (X^2=22.43, df=9, p=.00), indicating an increase in the likelihood of the study group members travelling into a wilderness area. However, this increase may simply reflect future ecotours, like the Nahanni, which respondents were asked not to report in the pre-experience survey. Therefore, a comparison between these two figures is not recommended. The most commonly mentioned activities to be pursued in the wilderness were the same as for the pre-experience survey findings, but with higher frequencies: canoeing (12 for the study group and 9 for the control group), camping (11 for the study group and 13 for the control group), hiking (11 for the study group and 14 for the control group) and skiing

(6 for the study group and 11 for the control group). Although minimum impact camping was again the most popular form of camping that the respondents intended to use, its popularity amongst the study group decreased but increased in the control group.

In the control group, 89.3 percent had reported in the pre-experience survey that they intended to travel into a wilderness area in the next twelve months; however, only 60.7 percent reported having done so in the post-experience survey. This was statistically significant (X^2=20.00, df=6, p=.00) indicating that there was no change between the pre and post-experience surveys. However, the post-experience survey was given after only six months; therefore, it was assumed that many members of the control group intend to participate in winter activities. Indeed, 39.3 percent report an intention to ski.

The likelihood of study group members joining an outdoor recreation or environmental club or organization decreased from 36 percent being very or somewhat likely to join in the pre-experience survey to 28 percent for the post-experience survey. This was statistically significant (X^2=17.47, df=9, p=.04) indicating the likelihood of joining a club remained constant in the two surveys. The control group also experienced a decrease in this area, from 35.7 to 21.4 percent. However, this decrease was not statistically significant (X^2=8.79, df=9, p=.45).

There was a minor increase (8 to 12 percent) in the proportion of the study group that would either be very likely or somewhat likely to take an environmental or environmental leadership course during the next twelve months. This increase was not statistically significant (X^2=14.88, df=9, p=.09). A similar increase occurred in the control group, from 25 to 28.6 percent. This, however, was statistically significant (X^2=24.80, df=9, p=.00), indicating that there was no change between surveys.

There was an increase (16 to 24 percent) in the likelihood of study group members being very likely or somewhat likely to subscribe to a new outdoor recreation or environmental magazine or journal during the next twelve month period. This was not a statistically significant increase (X^2=7.07, df=6, p=.31). The control group remained relatively unchanged in this respect with 21.5 percent being very or somewhat likely to subscribe to a new outdoor or environmental journal. This was statistically significant (X^2=18.62, df=9, p=.02) indicating that there was no change between surveys.

As was the case in the pre-experience survey, the study group was nearly equally divided in the post-experience survey regarding intentions to become actively involved in an environmental issue. Forty-eight percent were either very likely or somewhat likely to become involved while 52 percent were either not too likely or not at all likely.

Nevertheless, this relationship was not statistically significant (X^2=10.98, df=9, p=.27). Although there was a slight decrease (from 89.3 to 85.7 percent) in the control group's intention to become actively involved in environmental issues, there remained a high level of commitment. This decrease was not statistically significant (X^2=6.14, df=4, p=.18).

There was an increase (from 88 to 96 percent) in the likelihood of the study group being either very likely or somewhat likely to lobby for the survival of the Nahanni were it threatened. This was a statistically significant increase (X^2=26.97, df=6, p=.00). Indeed, there was an increase (from 48 percent to 68 percent) in those very likely to lobby for its support. The control group also experienced an increase (from 75 percent to 85.7 percent). This was statistically significant (X^2=16.06, df=6, p=.01), indicating that there was no change between surveys. Nobody in either group reported that they were not at all likely to lobby for its survival in the post-experience survey.

Recent Wilderness and Environmental Preservation Activities

This group of questions was designed to enable a comparison to be made between the two groups' pre-experience and post-experience wilderness and environmental preservation activities. However, because respondents were

asked to report activities for the previous twelve months in the first survey and only the previous six months in the second survey, the comparisons made here should be considered with caution. A time period of six months for the second survey was chosen because this was the time between the two surveys. Twelve months would have been inappropriate as it would have meant a six month overlap in reported activities. It is recognized that this is a limitation of the surveys and will be discussed further in Chapter VI.

Thirty-six percent of the study group and 64.3 percent of the control group had travelled into a wilderness area in the previous six months, while 52 percent (71.4 percent for the control group) had travelled into a wilderness area in the twelve months prior to the pre-experience survey. The activities most commonly engaged in while in those areas were: hiking, camping and canoeing. Although these were the same activities mentioned in the pre-experience survey, the frequencies were much lower. There are several possible reasons for this: first, as mentioned, this question addresses only the previous six months; second, this question asked about wilderness travel and activities other than the Nahanni which may have consumed much of the study groups wilderness recreation time in the previous six months, therefore, not allowing the them opportunity to engage in other activities; third, although the study group was asked not to report on their Nahanni trip in both the

pre and post-experience surveys, they may be reporting another ecotour experience they may have had in the twelve months prior to the pre-experience survey, which could include hiking, camping and canoeing.

No members of the study group took part in an environmental or environmental leadership course. However, a small proportion of the control group did. Eighteen percent of the study group and 7.1 percent of the control group subscribed to a new outdoor recreation or environmental magazine or journal in the previous six months which represents a 10 percent increase for the study group and a 21.5 percent decrease for the control group.

Environmental Attitudes

Once again respondents' environmental attitudes were measured using the same scale used in the pre-experience survey (Table 5.1). F-ratio values ($p=<.05$) are presented in Table 5.2. The table shows that the only relationship that was statistically significant was that the two groups, study and control, were significantly different from each other ($p=.01$). The change over time for both groups was not significant ($p=.37$), nor was the relationship between groups over time ($p=.31$). In other words, the two groups were significantly different in the their environmental attitudes and this remained constant for both the pre and post-experience surveys (Figure 5.1). Therefore, the Nahanni

experience did not change the environmental attitudes of the study group.

TABLE 5.1

ENVIRONMENTAL ATTITUDE SCALE SCORES

Study	Mean[1]	SD	n
Rodgers (1985)			
Environmentalist	2.04		
General Public	2.63		
Business Sample	2.89		
Jackson (1986)			
General Public	2.64		
Farbrother (1987)			
General Public	2.86		
Kuhn (1988)			
General Public	2.55		
Asfeldt (1992)			
Study Group (Pre-test)	2.37	.44	25
Study Group (Post-test)	2.37	.46	25
Control Group (Pre-test)	2.02	.50	28
Control Group (Post-test)	2.09	.50	28

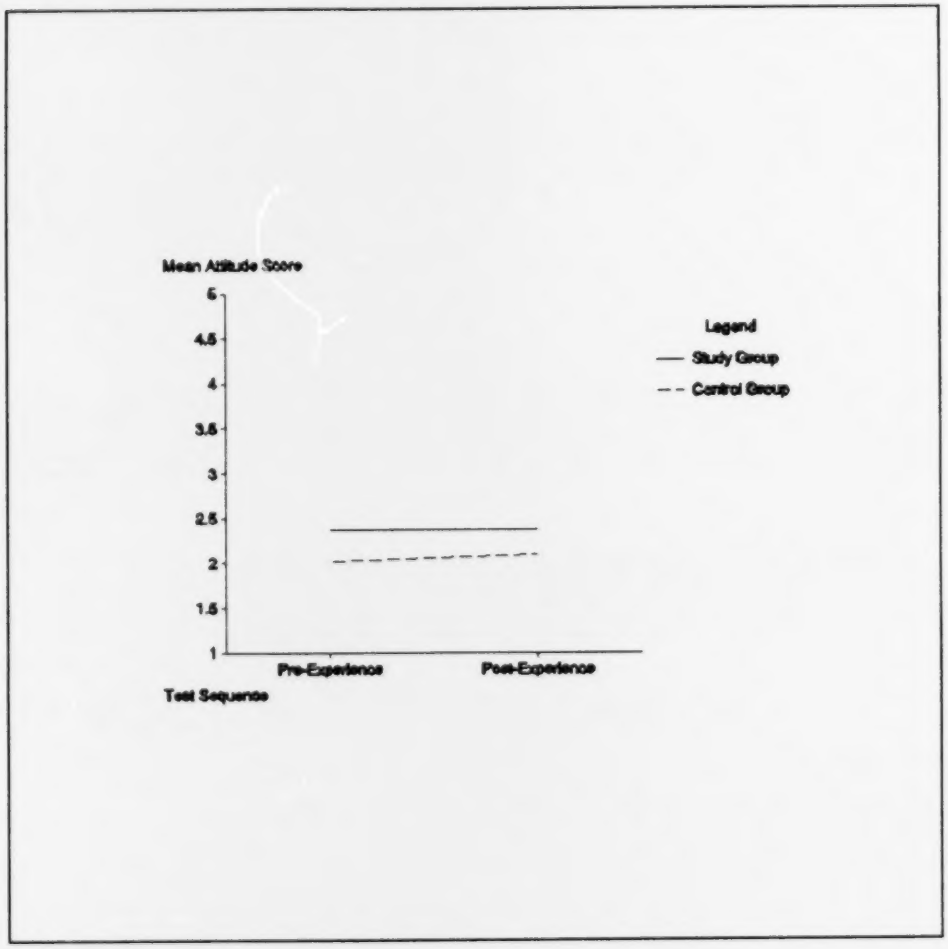
[1] low score indicates pro-environmental and a high score indicates anti-environmental. (Potential range = 1-5)

Again, there was a myriad of answers given to the question: What do you feel it means to be environmentally concerned? Of the 25 participants who responded, one chose not to answer this question as compared to three in the pre-experience survey. In the remaining 24 questionnaires 45 ideas were identified from which six themes evolved. The

largest group (10) focused on being aware:

FIGURE 5.1

**MEAN ENVIRONMENTAL ATTITUDE SCORES:
PRE AND POST-EXPERIENCE**



Study Group n=25
Control Group n=28

[B]e aware and concerned about what goes on in nature and technology and make intelligent (vs emotional) choices.

[B]e aware of environmental issues: locally, regionally, nationally and internationally.

[A]ware of the impact and consequences of our actions on the environment.

TABLE 5.2

ENVIRONMENTAL ATTITUDE SCORES

Source of Variance	MSH	F	df_1	df_2	p
Group	2.61	6.70	1	51	.01
Time	.03	.80	1	51	.37
Group/Time	.04	1.03	1	51	.31

Study Group n=25
Control Group n=28

The next largest theme group (8) focused on taking action and speaking out, as shown in these examples:

[T]o speak out and make others aware of the dangers we face in our country.

[T]o show concern by example and deed for the environment through daily actions that enhance the environment rather than destroy or detract from it.

[T]o behave environmentally and speak out about it.

The next theme group was nearly as large (7) and was concerned with being conscious of our personal impacts on

the environment, as represented by these examples:

> *[To be] conscious of the impact of one's own existence upon the planet and our future.*
>
> *[P]ersonal behaviour for good of the environment (at home and outside).*
>
> *[E]veryone do their part no matter how small to better the environment.*

Three other theme groups were identified and were characterized by the following three themes: recycling (5), respecting and preserving nature (5) and educating others (5). The additional seven ideas were too varied to form further groups.

When comparing these responses to the pre-experience survey responses, several things become evident. First, there were more ideas from more respondents; second, the largest theme group again focused on being aware, and recycling was again identified as theme group. Third, several new themes presented themselves, namely: speaking out, being conscious of personal impacts, respecting and preserving nature, and educating others. Obviously, there had been a change in what the study group felt it meant to be environmentally concerned. Only two themes evolved from the control groups responses to this question, both of which were identified in the pre-experience survey. The themes were: living in an environmentally friendly manner and being willing to make personal sacrifices (14), and to educate

oneself (3).

Responses by the study group to the question asking respondents to identify three key behaviours that reflect an environmentally concerned individual were similar to those obtained in the pre-experience survey. However, there was an increase in the overall number of responses (55 to 67). The theme group 'recycling' increased in size (9 to 11), but decreased in rank (from 1st to 2nd). The most commonly mentioned behaviour was to be educated and aware of issues (Table 5.3). Responses from the control group are outlined in Table 5.4. The responses appear to reflect a change in focus - from being personally active to educating oneself.

From the responses to these last two questions, it appears that the study group felt that it was important to be aware of the issues and to recycle. It was also evident that members of the study group were generally more willing to answer these questions than in the pre-experience survey, which may indicate more thought being devoted to this topic after the Nahanni trip.

There was no change in how the members of the study group felt regarding their present levels of environmental concern. The data were exactly the same except for one incidence of missing data in the post-experience survey. This was statistically significant (X^2=31.74, df=4, p=.00) indicating that there was no change between surveys. Similarly, the control group's response remained nearly

constant. One hundred percent reported being concerned with the environment, compared to 96.4 percent in the pre-

TABLE 5.3

KEY BEHAVIOURS OR ACTIONS THAT REFLECT AN ENVIRONMENTALLY CONCERNED INDIVIDUAL
Study Group

Behaviour	Number of Responses	
	Pre	Post
Recycle	9	11
Decrease pollution	7	3
Join a group	5	0
Be educated and aware	5	12
Respect for nature	5	4
Decrease use of fossil fuel	4	2
Preservation/conservation	4	7
Lobby government	3	1
Decrease packaging	3	0
Responsible Behaviour	0	6
Support Environmental Grps	0	3
Other	10	18
TOTAL	**55**	**67**

n=25

TABLE 5.4

KEY BEHAVIOURS OR ACTIONS THAT REFLECT AN ENVIRONMENTALLY CONCERNED INDIVIDUAL
Control Group

Behaviour	Number of Responses	
	Pre	Post
Personally Active	15	3
Recycle	10	8
Decreasing Consumption	10	3
'Low-impact' Lifestyle	0	9
Support Env. Groups	0	8
Politically Active	7	4
Educate oneself	7	11
Experience Wilderness	4	0
'Green' Shopping	3	3
Other	20	19
TOTAL	**76**	**68**

n=28

experience survey. This too was statistically significant (X^2=12.88, df=1, p=.00) indicating that there was no change between surveys.

Personal Feelings and Opinions Regarding Impact of Nahanni Trip

The number of study group members who felt that their participation in a Nahanni trip would contribute to the preservation of that specific environment increased from 60 to 68 percent. This was statistically significant (X^2=4.05, df=1, p=.04) indicating that there was no change between surveys. Themes that were identified from the study group members who responded "yes" were: now that they have experienced the Nahanni they will fight for its survival (7); second, the guides ensured that, as a group, they had minimal impact, leaving it for others to see in its natural state (5); and third, their awareness of nature and the need to preserve it had been increased (3). Examples of the first theme are:

> *[B]ecause I had experienced the Nahanni and its beauty, I would support measures to preserve it and fight for it.*
>
> *I will do anything possible to be sure the Nahanni is always protected.*

Examples of the second theme are:

> *[C]ontrolled small group with guides teaching us about the environment and giving us the rules to live by.*
>
> *[I]f all visitors to this beautiful 'park' will act as we have done trying not to 'harm' or spoil this area we will keep that park in its original beauty for many to*

come and 'admire' the natural beauty.

An example of the third theme is:

[B]ecame aware of the delicate nature of this environment.

These themes parallel ones identified prior to the trip, which were: the experience would raise their awareness of the area causing them to become supporters of its preservation; participating in a guided trip would ensure minimal environmental impact and that guides had a vested interest in the area and would therefore ensure safe practices. Therefore, although statistically there has not been a significant increase in the number of study group members who feel their participation will contribute to the preservation of the Nahanni, clearly, the majority feel that it will.

Due to the low number of "no" responses to this question it was difficult to identify many themes. However, one theme was identified which focused on the point that increased traffic means increased impact. Examples of responses were:

In general, guided trips increase use for profit. Profit is incompatible with wilderness.

[I]f I tell everyone what a good trip it was, increased traffic right?

Although only one theme was identified, some of the other responses were interesting and worth sharing:

> *Unlikely that I would get involved either actively or financially promoting an area so far away - more likely that I would get involved closer to home - which I have. I can't stretch my concern for the environment to each specific area around the globe in other than a general respect.*
>
> *The only way I could contribute is in my relating to my friends the care that was shown by the guides for the environment and impressing on people how important this is on their own trips.*

The next question was very similar but differed because it asked if participants felt that their participation "had" contributed to the preservation the Nahanni as opposed to "will" contribute as in the previous question. Interestingly, only 60 percent of the study group members felt that their participation "had" actually contributed to the preservation of the Nahanni compared to 68 percent who felt that it "will". There were three themes revealed from these 60 percent and two of them were equally represented: that participants knowledge of low-impact camping techniques increased a great deal (7), and now that they had experienced the Nahanni, they saw need to ensure its preservation (7). Examples of the first theme are:

> *Our guide's emphasis on 'take nothing but pictures and leave nothing but footprints' became a process of living by the end of the trip. I now think about that whenever I am outdoors.*

Emphasis here on 'guided' trip. If had been on a non-guided trip, would not have practised low impact camping as was not aware of the principles of such.

Examples of the second theme are:

[B]ecause by experiencing the Nahanni and its beauty I would support measures to preserve it and fight for it.

As I had never been to that part of Canada I was absolutely blown away by its beauty and the need to preserve it for future generations and for myself when I go back.

[C]ould discuss with friends about its beauty and the need to preserve it as a park.

A third theme that was recognized centered around having an increased awareness (3). Examples are:

[B]ecame aware of the delicate nature of this environment.

I have a better understanding of the unique beauty of this country and so have an informed opinion.

There were five other responses that did not fit into either of the above categories but one was particularly significant because it showed that the individual had gained an important insight into the potential of ecotourism.

The use of the park for recreation/wilderness tourism is a way of showing public interest and concern to the government about this area. This will prevent the use of the area by mining companies or other developers that would make an irreversible change on this environment.

From the open-ended responses by the members of the study group who felt that their participation in a Nahanni trip "had not" contributed to the preservation of that specific environment, two themes were identified. First, that an increase in traffic on the river means more environmental impact (4); second, that they did not feel they did anything during the trip that contributed to its preservation (3). Examples of the first theme are:

> *[A]ny group, no matter how careful (and we were very careful) leaves its mark on the wilderness. The more visitors there are the more difficult it will be to preserve the Nahanni.*
>
> *[T]he very fact that I was there is an attack on a pristine park - but my presence on a guided tour minimized detrimental effects. We saw people travelling without guides who were treating the park with less care than we did.*

Examples from the second theme are:

> *[T]he trip was for my enjoyment. There was no opportunity to actively do anything about preservation of the park.*
>
> *I don't think we did anything on the trip to improve the environment. At the same time we did things so as not to danger it.*

Notwithstanding the fact that more of the study group members feel that their participation "will" contribute as compared to "has" contributed to the preservation of the Nahanni, here too, the majority feel that their

participation has been a positive contribution to the Nahanni's continued natural state whether that contribution be immediate or yet to come.

There was a dramatic increase (from 57 to 78.6 percent) in the number of control group members who felt that participation in a Nahanni trip "will" contribute to the preservation of that specific environment. In spite of this seemingly large increase, it was not statistically significant (X^2=7.12, df=4, p=.12). As in the pre-experience survey, the difference between how the study group and the control group felt about this notion was not statistically significant (X^2=5.76, df=2, p=.05). Themes identified by control group members who felt that participation "will" indeed contribute to the Nahanni's preservation were: emphasising the importance of experiencing wilderness and the subsequent desire to ensure its protection was dominant here (13), as it was in the pre-experience survey. The second theme, similar to the first, identified an increased awareness and appreciation for wilderness (7) as a benefit of participation, leading to preservation of the Nahanni. The remaining 9 responses were not cohesive enough to form theme groups; however, two were particularly interesting.

> *A great deal depends on the guide and party. The converted require no more motivation. A good guide can by example and attitude lead and educate people with little previous appreciation.*

When people see real wilderness they realize what they are missing, they will be in awe of it, they will go back with an environmental consciousness. Much depends on the guides getting the message out.

These responses point again to the important and powerful role that guides plays in influencing their guests. The number of "no" and "maybe" responses were too few to enable the formation of themes and will, therefore, not be reported.

The next two questions dealt with the impact the members of the study group felt their participation "will" have and had "had", towards the preservation of other natural environments. Sixty-eight percent felt that their participation "will" contribute to the preservation of other natural environments. This was an increase from 60 percent in the pre-experience survey yet was statistically significant (X^2=11.51, df=2, p=.00) indicating that there was no change between surveys. Three theme groups evolved from those who responded "yes" to this question. They were: that appreciation and awareness of wilderness has been increased (7); second, has instilled a desire to see other areas preserved (5); and third, they learned low-impact camping techniques which will be used in other areas (3). Examples of the first theme are:

My participation in the Nahanni trip increased my awareness to a degree that would not have been possible

if I had not taken this trip.

Possibly because my awareness of wilderness areas has been increased and I will influence others in this attitude.

Examples of the second theme are:

It was a dream come true and generations of Canadians should have a chance to experience this as well. Our wilderness areas are disappearing fast, one should and can speak-out for their preservation.

My participation, along with the interests of other Canadians, hopefully will act as an advertisement for the parks and draw more Canadians to protect areas for low-impact recreation.

Examples of the third theme group are:

[C]ontrolled small groups with guides teaching us about the environment and giving us rules to live by.

[W]ill practice low-impact camping.

There was a tone reflected in the open-ended portion of this question from those who answered "no" that hints that they were frustrated with these similar questions and they do not at all consider this trip a benefit to the environment. Only one theme revealed itself and it reflects this frustration.

I don't see how it could.

How could it?

I can't see any reason that it would have any contribution for a natural environment for, say, Ontario or Quebec.

I keep repeating myself.

When asked if their participation had "had", as opposed to "will", contribute to the preservation of the Nahanni, 68 percent of the study group responded "yes" which was identical to the response to the previous question. The responses to the open-ended portion of the question were also similar, in fact, nine respondents simply referred to the previous answer. Therefore, examples from this portion of the question will not be reported.

Based on the responses to the last group of questions, it appears that most of the members of the study group felt that they, in one way or another, contributed to the preservation of natural environments generally, through their participation in a Nahanni trip. Indeed, through personal communication, the researcher has been told by one of the study group members that she is initiating an international wild rivers awareness campaign through an international retail store that she is involved with.

The control group's response to the question - Will participation in a guided wilderness canoe trip on the Nahanni River contribute to the preservation of other natural environments? - was nearly the identical to their feelings about participation contributing to the preservation of the Nahanni specifically. Seventy-five percent felt that it would. However, this relationship was not statistically significant (X^2=4.06, df=4, p=.39) because four individuals changed their responses. Two themes were

identified from the open-ended portion of the question; one being identical to a theme identified for this question in the pre-experience survey. That theme was that the appreciation, awareness and desire to see the Nahanni preserved would not be isolated to that specific environment but transferred to others as well (9). The other theme focused on a general increase in awareness and appreciation of wilderness (6). Clearly, the control group members felt that this experience would increase the participants' interest in the preservation of natural environments generally. In fact, they felt stronger about this than the study group as reflected in the statistical comparison of the two groups post-experience responses (X^2=6.54, df=2, p=.03).

When directly asked if their Nahanni experience had had an impact on their concern for the environment, 68 percent of the study group members felt it had while 28 percent felt it had not; there was one case of no response. While there were three themes that revealed themselves from those who responded "yes", one was particularly dominant (7). This was that the experience did not elicit a new concern but reinforced an old one.

> *Well, not my concern, but what I do about it. I'm even more convinced that my conservation activities (for which I've been ridiculed at home and work for 20 years) are right and I'm far more outspoken about it. Chase and Ginger [the guides] cut loose the tiger in*

me.

Am already concerned with the impact we are all having on wilderness areas and certainly this concern is heightened while on a trip of this nature.

The concern has always been there so it reminded me, not changed my feelings.

Another theme identified centered on an increased awareness (4):

I am now more aware of environmental issues and the impact that man has on wilderness areas.

I was impressed by the Grandeur and fragility of the wilderness.

A third theme that was revealed focused on the need for the preservation of wilderness areas:

[T]he total immersion in an undisturbed natural environment has imprinted a lasting concern on me for the area.

The trill I got from the experience, I hope to experience again in other areas also. I would like to have these areas always available to me and to future Canadians and certainly will take action if they are threatened.

There was one theme identified from those who responded "no" to this question which pointed to the notion that they were already environmentally concerned and, therefore, this trip had no additional impact on their concern (4). Indeed, they were explicitly stated as such; therefore, no examples

are warranted.

The study group was in general agreement (84 percent) that the guide on their particular Nahanni trip had had an influence on their present concern for the environment. When asked to explain the reasons for this, one theme dominated (12). That theme focused on the concerned and respectful example the guides portrayed.

> *[T]heir own concern, their actions and the rules they established were good examples to follow.*
>
> *[T]hey practised what they preached and obviously believed in it.*
>
> *The way we left the park, after 12 people and hundreds of pounds of equipment and food showed me that man can live in nature, respect it and still leave it virtually untouched.*
>
> *They had a knowledge of the wilderness and the river and respect for them. Their concern for leaving areas where we had been, in the exact state we found it influenced me such that I'll practice low-impact camping carefully.*

Again those who responded "no" explicitly said they were already environmentally concerned and that this trip did not significantly change this. Regardless of the responses from this segment of the study group, the guide in this experience was clearly an important and influential role model. In fact, 72 percent of the study group members claimed that the guides on their trips had also influenced their future wilderness activities.

VI. SUMMARY, IMPLICATIONS AND CONCLUSIONS

A. Review of the Study

Summary of Findings

Respondent Profile: Pre-Experience Survey

The study group was equally represented by both genders and was older than the Canadian average. The majority were married and just over half had dependent children. Most grew up, and still live, in an urban setting and have an education and income that are well above the average Canadian. Generally, this group was similar in socio-economic characteristics to groups identified in other studies of outdoor recreationalists, wilderness users and ecotourists.

The control group was comparable to the study group, differing only by being male-dominated, younger, somewhat more urban-oriented with a higher level of education and a lower average annual income. Of these differences, annual income was the only one that was statistically significant.

This was the first trip to the Nahanni for all members of the study group, although some had been on other guided trips. The majority had had some form of wilderness experience during their childhood or adolescence and intended to travel into the wilderness again in the next twelve months; of those who planned to camp, minimum impact

camping was the most popular form. Most of the group members belonged to some outdoor or environmental club as well as subscribed to a similar magazine or journal. About half the group had previously been actively involved in an environmental issue and about half felt that they were likely to become actively involved in such issues in the future. Statistically, the study group had been on more guided wilderness canoe trips than the control group.

The control group members differed in that they had been generally more involved as children and adolescents in camping and outdoor education and recreation programming. Statistically, they differed in that they had been more involved as children and adolescents in family camping (auto), they were more frequent subscribers to outdoor and environmental magazines or journals, they had been more actively involved in environmental issues and had taken more conservation/environmental courses. In addition, they had greater intentions to become actively involved in future environmental issues and to travel into wilderness areas. These differences, too, were statistically significant.

The study group members were more environmentally minded than the general public, yet less environmentally minded than the control group and the members of other pro-environmental groups discussed in the research literature. Generally, both groups felt that they were concerned about the environment and thought that participation in a Nahanni

trip would contribute to both the preservation of that specific environment and other natural environments generally.

Respondent Profile: Post-Experience Survey

The study group experienced some changes between the pre and post-experience surveys that were statistically significant. These changes were increases in: their likelihood of travelling into a wilderness area during the next twelve months and their willingness to lobby for the survival of the Nahanni if it were threatened.

The control group did not show any statistically significant increases or decreases between the two surveys. In three areas their lack of change was statistically significant. Those were, the likelihood of; travelling into a wilderness area; taking an environmental or environmental leadership course; subscribing to a new outdoor or environmental magazine or journal. No changes were experienced by either the study or the control group regarding their environmental attitude or perceived level of concern for the environment.

When asked what it meant to be environmentally concerned, the study group members were consistent in defining environmental concern as being aware, involved and recycling. Their post-experience survey responses, however, were generally more action oriented. The control group, on

the other hand, were more consistent in their responses in the post-experience survey, producing only two themes: living an environmentally friendly lifestyle and educating oneself.

The members of the study group identified education and awareness as key behaviours reflecting an environmentally concerned individual in the post-experience survey more than twice as frequently as in the pre-experience survey. In both surveys recycling was frequently mentioned. Generally, the study group members identified more action-oriented behaviours in the post-experience survey. The control group members identified fewer behaviours in the post-experience survey, emphasizing educating oneself more.

Both groups felt stronger, in the post-experience survey, that participation in a Nahanni trip would indeed make a contribution to the preservation of that specific environment as well as other natural environments. Both groups identified the increased awareness and appreciation of the natural environment gained through first-hand experience as an important factor contributing to participants' willingness to lobby for the preservation of the Nahanni as well as motivation for ensuring the preservation of other natural environments.

Sixty percent of the study group felt that their participation had made a contribution to the preservation of that specific environment. The most frequently mentioned

ways in which they felt this was done were: they learned minimum impact camping techniques and that now that they had experienced the Nahanni they would support its preservation. Sixty-eight percent of the study group felt that their participation had made a contribution the preservation of other natural environments. As well, 68 percent of the study group felt that their Nahanni experience had influenced their attitude toward the environment. The study group members were in agreement (68 percent) that their Nahanni experience had indeed had an impact on their concern for the environment. The most frequently cited reasons for this were: the reinforcement of existing concern, increased environmental awareness, and an increased desire to ensure the preservation of the Nahanni. In addition, the overwhelming majority (84 percent), felt that the guide(s) on their particular trip had influenced their environmental concern through their own modelling of respect and concern for the environment. Also, 72 percent felt that their guide had influenced their future wilderness activities. Clearly, both the study and the control group felt that the guides were important and influential role models.

Although it is difficult to say conclusively that this experience has had a statistically positive impact on the study group members' concern for the environment, from a qualitative perspective, the experience has been a very meaningful and influential one for the majority of them.

Study Method

The self-administered mail questionnaire design used in this study proved to be an effective method of collecting data. Many of the limitations associated with self-administered mail questionnaires (Wiesberg and Bowen, 1977; Dillman, 1978 and Babbie, 1989) were not experienced.

A major weakness often associated with this method is low response rates. Response rates in this study were clearly acceptable; in three of four cases the response rates was greater than 50 percent which is identified as acceptable (Babbie, 1989). The main factors contributing to these high response rates were: 1) the careful use of Dillman's (1978) questionnaire and cover letter design; 2) the familiarity of the researcher to the activities of the survey population (study group) allowed a workable research design; 3) the survey population was sincerely interested in the problem (especially the control group); this is assumed by the high response rates and the generally enthusiastic responses to the open-ended questions. Although the response rates were acceptable, the resulting sample size was smaller than desired for statistical analysis. However, by distributing a larger number of questionnaires while employing a similar research design, this problem could be overcome.

A second major weakness often associated with this method is that the respondents are frequently

unrepresentative of the study population. In terms of the study group for this study, the complete survey frame was surveyed effectively eliminating sampling bias. However, the control group may be subject to sampling bias, in fact, an ideal control group for this study does not exist in reality.

A third major weakness of self-administered mail questionnaire is that they tend to be superficial. This was overcome through the combined use of open and closed-ended questions enabling the respondents to freely express their feelings and views which they did; often with great enthusiasm.

There was a generally favourable response to the questionnaire; in fact, some respondents commented that they thought the problem was an important one. Nevertheless, the following change is recommended. A problem arose in comparing the recent wilderness and preservation activities between the two questionnaires. Respondents were asked to report on their activities for the previous twelve months in the pre-experience questionnaire and the previous six months in the post-experience questionnaire. Obviously, the time discrepancy created by these two questions does not allow for meaningful comparisons to be made. This could be overcome in one of several ways: 1) administer a post-experience questionnaire twelve months after the first one; 2) ask respondents to only report their activities from, in

this case, May 1, 1990 to October 30, 1990 in the pre-experience questionnaire and then May 1, 1991 to October 30, 1991 in the post-experience questionnaire; 3) have respondents report activities on a month by month basis for the previous twelve months in the pre-experience questionnaire and likewise for the previous six months in the post-experience questionnaire. This would allow a similar comparison as in suggestion "2" yet also allow the researcher to identify seasonal variability in activities.

B. Response to the Study Hypothesis

This study had four hypotheses that were to be tested for support or non-support by this project. A response is given to each here.

1. **There is a positive association between participation in a guided wilderness canoe trip and environmental attitude.**

   This hypothesis is supported. The study group was more pro-environmentally minded than members of the general public before and after the trip.

2. **There is a positive association between participation in a guided wilderness canoe trip and an increase in pro-environmental attitude.**

   This hypothesis is not supported. Based on the environmental attitude scale used, the environmental

attitude of the study group did not change as a result of the canoe trip experience. However, the responses to the open-ended portion of some questions leads the researcher to believe that there was a perceived attitude change on the part of the study group members. If this is indeed a "real" attitude change, there may be several reasons why it was not detected by the environmental attitude scale: their attitudes changed in a more specific manner than the scale used was design to detect; and that the small sample size did not provide adequate power to statistically detect the potentially small change the may have actually occurred.

3. **There is a positive association between pro-environmental attitude and self-reported pro-environmental intentions.**
   The study leads weak support for this hypothesis. The control, which had a more pro-environmental attitude than the study group, showed a statistical difference on only two of six intention variables.
4. **That there is a positive association between self-reported pro-environmental intentions and self-reported pro-environmental behaviours.**
   Due to design weaknesses, this hypothesis was not adequately tested.

C. Implications

The results of this study demonstrate that ecotourism, at least in this case, is perceived by participants to contribute to the preservation of specific ecotourism destinations and other natural environments generally. This is an important discovery for the future of ecotourism as a legitimate conservation tool and, perhaps simultaneously, an economic development tool. To ensure maximum benefit from this perception, outfitters should attempt to transform it into action; how this could be accomplished requires investigation.

It is clear that the guide plays an important part in influencing the attitudes, awareness, appreciation and concern for the environment of their guests through role modelling. In addition, many of the participants stated that they had learned new minimum impact camping techniques that they would now use when travelling on their own. With this knowledge, the industry must not take lightly the task of ensuring quality guides. Indeed, attention should be given to ensuring that adequete training is given to guides regarding camping techniques as well as making them aware of the powerful role model that their job entails. It would also be valuable for those hiring guides to ensure that the guide's attitudes to, concerns for and behaviour towards the environment are compatible with the goals of ecotourism.

The industry would also be wise to look to the environmental and adventure education literature and consciously build into its programs the elements identified there as being central to influencing the attitudes, abilities and desires of the participants' toward the environment. Those elements are: to give information on environmental issues; provide the skills required to use action strategies effectively; promote a high internal locus of control; provide people with extended periods of exposure to pristine natural environments and model responsible environmental behaviour and attitudes. These recommendations are applicable to all forms of ecotourism.

Needs for Further Research

This study has resulted in the identification of several areas for further research. First, the weaknesses identified in the questionnaire should be addressed. Second, this study should subsequently be conducted with similar and different ecotour programs to determine if the results identified here are unique to guided wilderness canoe trips on the Nahanni or are more widespread. Third, similar studies should be designed to incorporate larger sample sizes and a longer study period.

Additionally, research should be conducted to specifically determine the outcomes of ecotourism regarding the five programs elements identified by the environmental

and adventure education research. This research should include a variety of ecotourism opportunities ensuring that a variety of settings, activity types, client groups and risk levels are represented. As well, researchers should investigate the motivations, or expectations, of ecotourists to determine if they would be accepting of ecotour programs that included all, or some, of the program elements identified as central to influencing the attitudes, abilities and desires of the participants' toward the environment. All of these research suggestions would benefit from being longitudinal enabling the long term impacts of ecotourism to be identified.

Research focusing on the guide is also recommended. Specificially, what are the motivations of guides that result in their involvement in this field? What type of training results in guides that are equiped and able to maximize their role model position? Additionally research is also recommended that focuses on the participants. Such as, do they indeed utilize the minimum impact camping techniques that they learned? As well, how can the perception that they are contributing to the preservation of natural environments result in behaviour?

D. Conclusions

The claim by the ecotourism industry and ecotour

operators alike that "the more people you take into an area, the more people know about it, the more people appreciate it, the more people who'll vote for its continuing support" (Harrison, 1990) is supported by this study. This realization speaks well for the future of a successful ecotourism industry and the survival of the natural environments on which it is dependent. However, for ecotourism to yield its full potential it is crucial for ecotour operators to ensure that their guides are aware of the important and influential role models that they are and that they take full advantage of it to ensure the continuation of the industry. In addition, ecotour operators should attempt to provide their guests with information concerning environmental issues, the skills required to use action strategies effectively and promote a high internal locus of control. Obviously, these are high expectations for the ecotour operators to meet realizing that their primary product is a vacation experience. Nevertheless, any contribution in one or all of these areas will further ensure the achievement of the goals of ecotourism. In final conclusion, the guided wilderness canoe trips on the Nahanni River with Nahanni River Adventures Ltd. did have a positive impact on the participants' attitudes to, concerns for, and behaviours toward environment.

VII. BIBLIOGRAPHY

Ajzen, I. (In Press). The Theory of Planned Behavior: Some Unresolved Issues. Organizational Behavior and Human Decision Processes.

Babbie, E. (1989). The Practice of Social Research (5th ed.). Belmont: Wadsworth Publishing Company.

Bikales, E. and Manning, R. (1990). Outdoor Recreation and Environmental Concern: A Further Exploration. In Proceedings of the 1990 Northeastern Recreation Research Symposium. USDA Forest Service General Technical Report NE-145.

Bregha, F. (1989). Tourism, Development, Peace. World Recreation and Leisure. Winter. 5-8.

Buckley, M. (1991). Himalayas Under Siege: Notes on Annapurna. Explore. 50(Spring), 36-38.

Burton, T. (1990). PESS 581: Social Research Applications to Sport (and Leisure). Lecture notes: University of Alberta.

Butler, J.R. (Interviewee) (1991). Marketplace, [Regular Program]. Canadian Broadcasting Corporation.

Butler, J.R. and Fenton, G.D. (1987). Bird watchers of Point Pelee National Park, Canada: Their characteristics and activities, with special consideration to their social and resource impacts. Alberta Naturalist, 17(3), 135-146.

Butler, R.W. (1989a). Alternative Tourism: Pious Hope or Trojan Horse? World Recreation and Leisure. Winter. 9-17.

Butler, R.W. (1989b). Tourism and Tourism Research. In Jackson, E.L. and Burton, T.L. (Eds.). Understanding and Leisure and Recreation: Mapping the Past and Charting the Future. State College: Venture Publishing, Inc.

Boo, E. (1990). Ecotourism: The Potentials and Pitfalls. (Vol.1). Washington: World Wildlife Fund.

Clawson, M. and Knetsch, J.L., (1966). Economics of Outdoor Recreation. Baltimore: John Hopkins University Press.

Cohen, E. (1989). Alternative Tourism-A Critique. In Singh, T.V., Theuns, H.L. and Go, F.M. (Eds.). Towards Appropriate Tourism: The Case of Developing Countries. Paris: Peter Lang.

Cohen, J. (1988). Statistical Power Analysis for the Behavioral Sciences. Hillsdale: Lawrence Erlbaum Associates.

Dillman, D. (1978). Mail and Telephone Surveys: The Total Design Method. New York: John Wiley & Sons.

Dunlap, R.E. & Heffernan, R.B. (1975). Outdoor Recreation and Environment Concern: An Empirical Examination. Rural Sociology. 40. 18-30.

Dunlap, R.E. & Van Liere, K.D. (1978). The 'New Environmental Paradigm': A Proposed Measuring Instrument and Preliminary Results. Journal of Environmental Education. 9. 10-19.

Dunlap, R.E. & Van Liere, K.D. (1984). Commitment to the Dominant Social Paradigm and Concern for Environmental Quality. Social Science Quarterly. 65. 1013-1028.

Farbrother, S.C. (1985). The Influence of Environmental Attitudes on Energy Preferences and Behaviours. Unpublished M.A. thesis, Department of Geography, University of Alberta.

Fediow, S. (1988). The Second Century. Environmental Views, September, 5-7.

Feifer, M. (1985). Going Places: The Way of the Tourist. London: MacMillan.

Fishbein, M. and Ajzen, I. (1975). Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research. Reading: Addison-Wesley.

Geisler, G.C., Martinson, O.B. & Wilkening, E.A. (1977). Outdoor Recreation and Environmental Concern: A Restudy. Rural Sociology. 42. 241-249.

Gillett, D.P., Thomas, G.P., Skok, R.L. & McLauglin, T.F. (1991). The Effects of Wilderness Camping and Hiking on the Self-Concept and the Environmental Attitudes and Knowledge of Twelfth Graders. Journal of Environmental Education. 22(1):33-44.

Government of the Northwest Territories. (1990). Tourism: The Northern Lure.

Grimm, S. (1987). Recreation Specialization Among River Users: the Case of Nahanni National Park Reserve. Unpublished Master's thesis, Department of Geography, University of Waterloo, Waterloo, Ontario.

Gurung, C. (1990, November 02). Planning for Sustainable Tourism: Annapurna Conservation Area Project: A Case from Nepal. Paper presented at the Ecotourism: Finding the Balance Conference, The Banff Centre for Management, Banff, Alberta.

Hanna, G. (In Press). Wilderness Related Environmental Outcomes of Adventure and Environmental Education Programming. Journal of Environmental Education.

Hanna, G. (1988). The Effects of Adventure and Ecology Education Programming on Participants' Wilderness Knowledge, Attitude, Intentions and Behaviour. Unpublished doctoral dissertation. Ohio State University.

Harrison, M. (1990). Ecotourism: New Buzzword Defines A New Age. Explore, 46, 9-10,12.

Hartling, Neil. Owner of Nahanni River Adventures Ltd. Personal Interview. 10 Feburary 1992.

Hendee, J.C., Gale, R.P. & Catton, W.R. Jr. (1971). A Typology of Outdoor Recreation Activity Preferences. Journal of Environmental Education. 3(1), 28-34.

Hibbert, C. (1969). The Grand Tour. London: Putman.

Hitchcock, R.K. and Brandenburgh, R.L. (1990). Tourism, Conservation, and Culture in the Kalahari Desert, Botswana. Cultural Survival Quarterly, 14(2), 20-24.

Hvenegaard, G. (1989). The Economic Value of Bird Watching at Point Pelee National Park, Ontario. Unpublished M.Sc. thesis, Department of Forest Science, University of Alberta.

Industry, Science and Technology Canada. (1990). Tourism on the Threshold.

Inskeep, E. (1987). Environmental Planning for Tourism. Annuls of Tourism Research, 14, 118-135.

Jackson, E.L. (1986). Outdoor Recreation Participation and Attitudes to the Environment. Leisure Studies. 5. 1-23.

Jackson, E.L. (1989). Environmental Attitudes, Values and Recreation. In Jackson, E.L. & Burton, T.L. (Eds.). Understanding Leisure and Recreation: Mapping the Past and Charting the Future. State College: Venture Publishing, Inc..

Johnson, B. (1986). Conservation, Adventure Tourism and Development: Patterns for Emulation? Landscape Architectural Review, 7(5), 10-14.

Jones, A. (1987). Green Tourism. Tourism Management, 8(4), 354-356.

Keogh, B. (1989). Social Impacts. In Wall, G. (Ed). Outdoor Recreation in Canada. Toronto: John Wiley & Sons.

Keough, P. & Keough, R. (1988). The Nahanni Portfolio. Don Mills: Stoddart Publishing Company Ltd..

Knopp, T.B. & Tyger, J.D., (1973). A Study in Conflict in Recreational Land Use: Snow-mobiling versus Ski-touring. Journal of Leisure Research. 12, 368-380.

Kuhn, R.G. (1987). Geography, Energy, and Environmental Attitudes: An Investigation of Policy Scenarios and Public Preferences. Unpublished Ph.D. thesis, Department of Geography, University of Alberta.

Leopold, A. (1949). A Sand County Almanac. New York: Oxford University Press.

Lundberg, D.E. (1976). The Tourist Business. Boston: Cahnere Books International Inc.

Manning, R.E. (1986). Studies in Outdoor Recreation. Corvallis: Oregon State University Press.

Mathieson A. and Wall, G. (1982). Tourism: Economic, Physical and Social Impacts. New York: Longman Inc.

Miles, J.C., & Priest, S. (1990). Adventure Education. State College: Venture Publishing.

Morrow, P. (1991). Antarctic at Crossroads. Explore. 50(Spring), 32-36.

Newhouse, N. (1990). Implications of Attitude and Behavior Research for Environmental Conservation. Journal of Environmental Education. 22(1), 26-32.

Parks Canada. (1991). Annual Statistical Summary. Nahanni National Park.

Parks Canada. (N.D.). Nahanni: Human History.

Patterson, R.M. (1990). Dangerous River. Post Mills: Chelsea Green Publishing Company.

Petty, R.E. & Cacioppo, J.T. (1981). Attitudes and Persuasion: Classical and Contempary Approaches. Dubugue: Wm. C. Brown.

Pinhey, T.K. & Grimes, M.D. (1979). Outdoor Recreation and Environmental Concern: A Re-Examination of the Dunlap-Heffernan Thesis. Leisure Sciences. 2. 1-11.

Priest, S. (1986). Redining Outdoor Education: A Matter of Many Relationships. Journal of Environmental Education. 17(3), 13-15.

Rodgers, J.R. (1987). A Comparision of Environmental Attitudes, Energy Preferences, and Energy Conservation Behaviour Among Environmentalists, Business Executives, and the Public. Unpublished M.A. thesis, Department of Geography, University of Alberta.

Romeril, M. (1989). Tourism and the Environment-Accord or Discord? Tourism Management. 10(3) 204-208.

Sia, A.P., Hungerford, H.R., & Tomera, A.N. (1985-86). Selected Predictors of Responsible Environmental Behavior: An Analysis. Journal of Environmental Education. 17(2), 31-40.

Sivek, D.J. & Hungerford, H. (1989-90). Predictors of Responsible Behavior in Members of Three Wisconsin Conservation Organizations. Journal of Environmental Education. 21(2), 35-40.

Snepenger, D.J. & Moore P.A. (1989). Profiling the Arctic Tourist. Annuls of Tourism Research. 16, 566-570

SPSS Inc. (1983). Statistical Package for the Social Sciences. Chicago, Illinios.

Statistics Canada. (1987). The Nation - Population and Dwelling Characteristics: Age, Sex and Marital Status. Minister of Supply and Services Canada, Ottawa, Ontario (Cat.#93-101).

Statistics Canada. (1988a). The Daily. Mar. 1. Minister of Supply and Services Canada, Ottawa, Ontario (Cat.#11-001).

Statistics Canada. (1988b). The Daily. Apr. 20. Minister of Supply and Services Canada, Ottawa, Ontario (Cat.#11-001E).

Sutton, D.B. (1990). From the Taj to the Tiger. Cultural Survival Quarterly. 14(2), 15-19.

Swinnerton, G.S. (1982). Recreation on Agricultural Land in Alberta. Environment Council of Alberta. ECA-82-17/IB27, Edmonton, Alberta. 221 pp.

Turner, D. (1975). Nahanni. Surrey: Hancook House Publishers Ltd..

Valentine, P.S. (In Press). Nature-Based Tourism. In Hall and Weiler (Eds.), Special Interest Tourism.

Van Liere, K.D. & Noe, F.P. (1981). Outdoor Recreation and Environmental Attitudes: Further Examination of the Dunlap-Heffernan Thesis. Rural Sociology. 46. 501-513.

Weisberg, H.F., & Bowen, B.D. (1977). An Introduction to Survey Research and Data Analysis. San Francisco: W.H. Freeman and Company.

Whitton, B. (1990). Ecotourists: Off the beaten path. University of Waterloo Alumni Magazine, 7-9.

Zellermeyer, A. (1990 November 01). Ecotourism: Putting the House in Order. Paper presented at the Ecotourism: Finding the Balance Conference, The Banff Centre for Management, Banff, Alberta.

Ziffer, K.A. (1989). Ecotourism: An Uneasy Alliance (Conservation International). Ernst and Young.

APPENDIX 1

Nahanni River Adventures Information

Brochure

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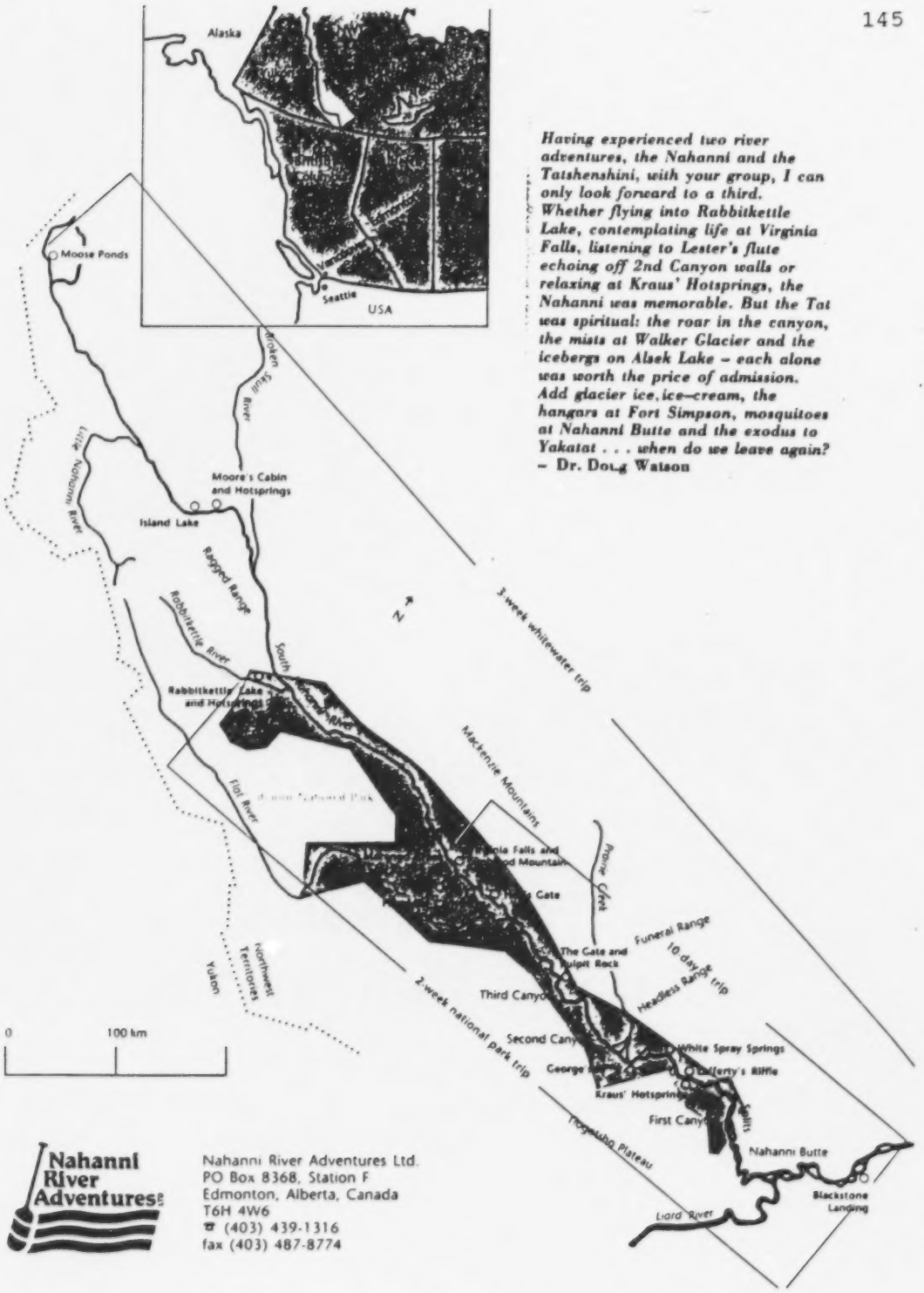

Having experienced two river adventures, the Nahanni and the Tatshenshini, with your group, I can only look forward to a third. Whether flying into Rabbitkettle Lake, contemplating life at Virginia Falls, listening to Lester's flute echoing off 2nd Canyon walls or relaxing at Kraus' Hotsprings, the Nahanni was memorable. But the Tat was spiritual: the roar in the canyon, the mists at Walker Glacier and the icebergs on Alsek Lake – each alone was worth the price of admission. Add glacier ice, ice–cream, the hangars at Fort Simpson, mosquitoes at Nahanni Butte and the exodus to Yakatat . . . when do we leave again?
– Dr. Doug Watson

Nahanni River Adventures

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3
The Nahanni
What to expect
Am I up to it?

The Nahanni

- It flows through the Mackenzie Mountains on the Yukon/NWT border, east to meet with the Liard River and eventually the Arctic Ocean.
- It flows past natural hotsprings, Canada's deepest canyons, hills of soft calcium sculpted by the elements, and other features so unusual that the United Nations has designated Nahanni National Park a "World Heritage Site".
- It has a history as old as the north and as interesting as a haunted gold mine.
- It flows over Virginia Falls, which are nearly twice the height of Niagara.
- It flows through a region so remote that few of its mountains are named.
- It promises opportunities for day hiking, exploring, photography and fishing.
- It can, with experienced leadership, be paddled safely, with time to spare for enjoying the unique country through which the Nahanni flows.
- It never sees total darkness between mid-May and late July.
- It is pristine. You may drink it, swim in it and eat fish caught in its waters.
- It is a wilderness river with highlights and diversity of landforms unlike any other river found in the Northwest Territories, Yukon and Alaska.
- It lends itself to outfitted trips that leave you free to savor the adventure.

What to expect

If the name Nahanni is familiar to you, it is likely not necessary for us to elaborate on the spectacular nature of this river. Should you not be familiar with this area then take a minute to consult the September 1981 *National Geographic*, or any of the books listed under suggested reading. The pictures and text found in them will outdo any explanation that we can offer here.

"Still the greatest canoe trip in the world - the Nahanni River."
- Bill Mason, author of *Path of the Paddle* and *Song of the Paddle*, in *Deadman Valley Log Book*, August 1985.

Although the many splendors of the river are certain to impress the traveller, we realize that this is only a small part of a successful river trip. Of equal or more importance is the quality of character of your guide and the concern he or she shows for your needs. For this reason we select our guides with the following priorities:

- personableness
- experience and judgement
- concern with safety
- concern for participants
- ability to instruct
- skills - canoeing, navigation, emergency medical training.

To guide a successful trip requires the ability to recognize participants' needs and also their strengths. Although our guides are capable of doing more than a lion's share of the work, they will not stand in the way of those wishing to contribute to the daily routine. Indeed, for many this is the very essence of the adventure. We find that this approach fosters a sense of group achievement and enthusiasm.

Please consider carefully what your expectations are of such a trip. You will likely find our Nahanni video to be invaluable in answering your questions.

Am I up to it?

This is an often asked question prior to such a trip. We can put you in touch with past participants who will provide candid answers to your questions regarding the river and our trips.

It might reassure you to know that we have had participants as young as 6 and as old as 79!

4 *Common questions and answers*

Q *Is previous canoe experience required?*

A We have had beginners on every trip except the three week Whitewater trip. There is ample opportunity to learn the necessary skills as we go along.

Q *What are the bugs like?*

A Populations of mosquitoes on the Nahanni vary with temperature, rainfall and wind. As it is an alpine area, generally campsites are "mosquito free". However, on occasion we may be unable to avoid them. In these situations you will be glad to have mosquito repellent and a head net or bug jacket.

Steep-walled canyons

Great country for hiking

Q *What type of craft will we use?*

A You may choose between trips utilizing the following craft:

- *17' ABS canoes* – for those who would feel comfortable with one other person in the canoe. Previous paddling experience is an asset with these tandem canoes, but is not essential. More important is a good level of fitness and a willingness to learn.
- *27' voyageur canoes* – large and stable for those who may feel uncomfortable in the smaller canoes and wish to have a guide in their boat. Five participants are carried in each. Although everyone paddles, there is not the same need to "keep up" as in the 17' canoes.
- *rafts* – similar to the large canoes but slower on the river, are suitable for those who may not be able to paddle much. Five participants are carried in each. The rafting experience is a true "float trip" – days are longer, but less effort is required.

Q

A Absolutely not. Spending two weeks together on a river tends to bring a group of strangers together and the hardest part of most trips is saying good-bye.

Q *How hard is the trip?*

A It is difficult to quantify the difficulty or ease of any experience but a few examples may be helpful. On our voyageur trips we have had people in their seventies, as well as my mother, my two-year-old and his mother. The trips are participatory in nature but we try to gear the pace to accommodate a wide variety of abilities. Attitude tends to be the main criterion. Teenagers often "poop out" before senior citizens because they lack the ability to pace themselves. If you are capable of walking over rocky, uneven ground, if your bad back is manageable and if your doctor tells you that your stroke will not reoccur and that your angina will not worsen appreciably, then you will likely manage OK. You may wish to contact one of our previous participants for a third opinion.

Q *What will we be eating?*

A We have three guidelines for our food selection: quality, quantity and variety. If you have special needs or desire a copy of our detailed meal descriptions, please let us know. Alcoholic beverages are not included in our menus although some bring a small amount of their own choice. From the time you arrive in Fort Simpson until you leave all of your meals are provided.

Q *Are there any hidden costs?*

A No. Once you are in Fort Simpson your food and lodging are secured and we can supply the tents. You will be able to shower before heading home.

Q

A Our time on the river each day will vary, leaving time for other pursuits.

Q *What is the fishing like?*

A The Nahanni boasts Dolly Varden, Lake Trout, Arctic Grayling and in places, Northern Pike. These species are wary and the average size is small.
Although fishing can be well rewarded it does require patience and persistence. The main channel is quite silty until the middle of August. A Canadian National Parks Fishing Licence is required. These can be purchased for $10.00 when you arrive or you may already have one from another park.

Q

A We try to limit each trip to 10 participants, with a ratio of one guide to five participants. On the voyageur canoe trips we have a guide's assistant to help where needed.

Q *What is the weather like?*

A The Nahanni flows through a mountainous environment. The only fact you can bet on with mountain weather is that it can change instantly. This means that although we may enjoy fine weather we must also be prepared for changes.
Remember, as mere mortals your guides have no control over the weather. This may seem obvious but it is surprising how many well educated people will look for someone to blame for poor weather. The best we can do as guides and outfitters is to suggest proper clothing and we feel we have done this in the equipment list.

Q *Will we see other groups on the river?*

A Due to its isolation and distance from "anywhere" the Nahanni has not yet experienced the problems of other popular rivers. We do our best to maintain solitude while on the river. It is important to realize that occasionally we may have to tolerate the presence of other paddlers. There are two places in the park where we are likely to find other travellers. Both places, Rabbitkettle Lake and Virginia Falls, are the only places in the park where planes are allowed to land. Because of this and their physical beauty, they tend to form a bottleneck for river travellers. Once away from these places it is much easier to maintain privacy and solitude. If solitude is important to you then you would be wise to avoid the last two weeks of July and first two weeks of August. Finally, when setting your expectations remember that there is probably not a navigable river in North America that will not see canoeists next season.

Q *What qualifications does Nahanni River Adventures have as a company to provide us with this trip?*

A As a matter of course we exceed the safety and licensing standards set out by the various regulating bodies. Perhaps more important is the fact that we have withstood the test of time – sending only happy faces home to date. The company still has the personableness and attention to detail of a family organization. Things that should be important to you when you trust someone with your holidays and perhaps trip of a lifetime.

Q

A In spite of the fact that most of our participants are new to canoeing, we do serve a good number of experienced canoeists and wilderness travellers as well. They have chosen our services for a variety of reasons that usually include one or more of the following:

- We can draw together enough individuals to make the trip safe and viable. Often it is difficult for individuals to round up enough acquaintances who have similar holiday times or to get sufficient commitment from friends. Indeed some of our most experienced participants had been trying to get a trip together for years and finally chose our services out of exasperation only to find they wished they had signed on years earlier.
- A good guide will try not to "inhibit your adventure" but his or her local experience can be very handy and sometimes critical. The knowledge obtained from many trips down the river and knowing locals enhances the experience and ensures you don't paddle past interesting points or hikes. Let's face it; you receive the benefit of our past mistakes!
- Logistics are looked after with an experienced eye for details that may escape the first time visitor. The Nahanni lies in North America's largest and last frontier region. We have witnessed too many groups on their own who run into unnecessary logistical surprises due to an unavoidable lack of local knowledge and contacts. Some of our best references have come from such groups. Our logistical arrangements have already been secured and contingency plans are in place. Anyone attempting a trip without an outfitter and guide should make sure to have airline tickets that will be honored on any return day and not be expected back at work immediately.
- Proper provisioning for a "fly in trip" requires much work and experience. We look after this and take care of details such as fresh food and food drops, things that cannot be taken for granted in northern communities.
- We ensure that you are not "nickeled and dimed" to death. Our trip fee includes all services once we meet you in Fort Simpson. You need not fear returning home to a couple of hefty credit card bills from your Nahanni holiday as is too often the case on other trips.
- An experienced wilderness traveller who wishes to share a Nahanni trip with his or her less experienced spouse will find a guided trip to be a more enjoyable way to do this as the stresses of organizing logistics, food, and equipment are eliminated.

Q

A Only in the "rock gardens" encountered on the three-week whitewater trip beginning at the Moose Ponds is kneeling required. On all other trips you can manage quite well by sitting comfortably on your seat.

What to bring

When packing remember: "It's better to ask silly questions than make stupid mistakes". Mountain weather can change instantaneously! Wool and many of the synthetic pile fabrics provide insulation even when wet. Cotton is the opposite, losing insulative properties when wet and speeding heat loss by evaporation. Plan for many light layers so that you may shed clothing as you warm up. Again, you will find our Nahanni video very useful for selecting proper clothing. We will send further details upon application.

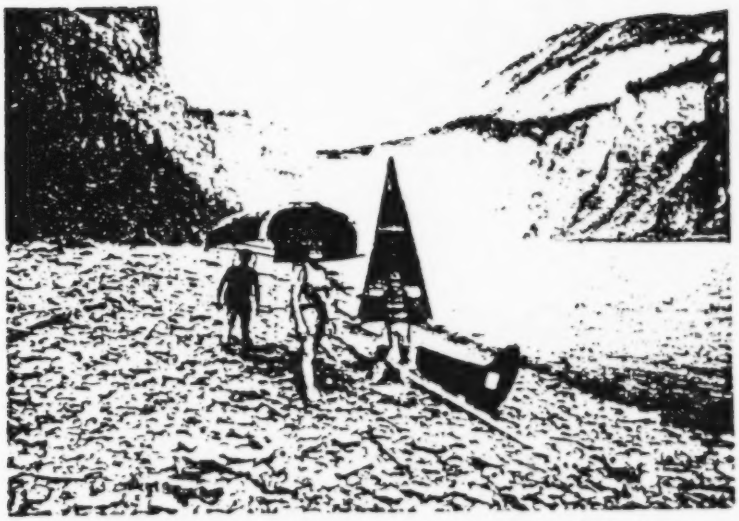
Clothing

- Hat – rain or shine type
- Touque (wool hat)
- Undershirts and pants – wool or synthetic
- Jacket (wool or synthetic) consider a light jacket or sweater with a heavier pile or quilted jacket, e.g. ski jacket, light parka
- Shirts – long sleeved
- T-shirt(s)
- Wind shell – rain jacket will do in a pinch but not vice versa.
- Wind pants – or heavier wool pants – no jeans. Light nylon wind pants are versatile and may be worn over long underwear when necessary.

Creatures of Kraus' Hotsprings

- Belt or suspenders – if you wish
- Wool socks – 4 pair minimum
- Neoprene booties (these are the type of footwear that divers wear and will keep your feet warm when wet). If they do not have a built-in sole, bring a pair of running shoes to wear on top. River travel means wet feet and you will appreciate the comfort of these.
- Two pairs of footwear. You may select from a variety of combinations. Many choose an old pair of running shoes for the river and another for camp.
- Light hiking boots or sturdy shoes for day hikes (may fulfill part of the above requirements).
- Bathing suit and shorts, bandana.
- Good quality rain jacket and pants. These must be made of sturdy waterproof material. You will not regret paying for a quality rain suit. Avoid vinyl, light nylon or the "so called" breathable fabrics. Be sure it has a hood. Ponchos are not suitable and in fact are dangerous on the river.
- Three-week whitewater trip requires a wetsuit. Avoid sleeves as they can chafe. Suits with long legs are not essential. Also bring a helmet on this trip.
- Sleeping bag – preferably synthetic – good to 5°C or 40°F.
- We recommend Therma Rest sleeping pad or air mattress (the ground may be rough). Closed cell foam will work, but is not as comfortable.
- Day pack – something to put items in which you want to keep handy during the day.
- Knee pads – (Three week whitewater trip or if you have bad knees. Not required for voyageur or raft trips.)
- Something to pack it all in: Traditional Duluth Pack, internal frame pack, duffel or hockey bag. Make sure that everything will fit. If you have a concern regarding this please call.
- Ten (10) garbage (trash) bags – Glad only, cheapies are hazardous.
- Mosquito head net and repellent – with any luck you won't need either. Bug jackets are great.
- Personal toiletry items – toothbrush, toilet paper, sun screen, skin cream, personal medications, etc.
- Knife, matches and/or lighter (fire implements must be in a waterproof container), compass if you wish.
- Whistle
- Small entertainment items
- Small flashlight
- Fishing rod, if you desire. Be sure to bring a case for it.
- 1/4" nylon or poly rope – 25' for tying gear into the canoe
- Personal items – not too many
- Camera – be sure to bring some sort of camera and lots of film. You'll never forgive yourself if you don't.
- Spending money for souvenirs, sundry items, fishing licence, etc.
- Snacks – We provide for snacks between meals. However, if you tend to be one of those people with a hollow leg and can consume "twice your weight in excess food" you may wish to include some snack items.
- Water bottle or canteen – handy on a hike.
- Life jacket (PFD)* – Modern vest design with foam flotation (Ministry of Transport approved).
- Paddle* – You may wish to bring your own.

* If you require either of the last two items please inform us as soon as possible.



"Just off the plane" – Our voyageur canoe in pieces being portaged to the base of the falls by guides

What we provide

- Canoes ("top of the line" wilderness tripping canoes by Old Town, Mad River and Blue Hole), bailers, spray decks, spare paddles, throw bag.
- Kitchen gear, food, maps
- Tents, camp tools
- Repair and maintenance equipment
- First aid equipment
- Folding camp chairs (light weight)
- Waterproof container for daily use items

We will review each person's clothing and equipment upon arrival and demonstrate packing techniques suitable to this trip.

Be thorough with your packing as you cannot rely on being able to pick up last minute items at northern destinations.

It all has to fit in the plane. Try to contain as much as possible in one bag and under the forty pound mark (not including tent, paddle, and PFD). Once up river you may wish to redistribute some items into a day pack.

In preparation for airline travel please ensure that your luggage is very clearly marked with your name and destination. There are few things worse than having your bags arrive a day late. Please arrive at the airport earlier than you would usually, you will find that the flexibility of airline staff is surprisingly high when they are not pressed for time.

Transportation arrangements and meeting place

Our trips begin and finish in Fort Simpson, NWT. This northern community may be accessed by air or road. For those wishing to fly north there are airline connections to Fort Simpson.

Please note: There is regularly scheduled airline service to our northern destinations. Experience has shown us that some agents are unable to find these details and the lowest rates. If you encounter any difficulty, don't be discouraged – please contact us for current details.

The flight upriver at the beginning of the trip and the ground shuttle back into Fort Simpson at the end of the trip are included in the fee. Any non-routine or emergency transportation is not covered and is the responsibility of the participants involved.

We have researched the most economical flights. You are welcome to use your own agent but for greater ease you might wish to contact Jenny Grams of **Fairhaven Travel**. Not only is she well versed in northern flights but she is also my mother-in-law and as such has a vested interest in the reliability of your connections. She may be contacted at:

Fairhaven Travel
2016 Sherwood Drive
Sherwood Park, Alberta
Canada T8A 0Z1
☎ (403) 464-0630

Selecting a trip

You will notice from the map and our trip descriptions that there are several options to consider. Each trip takes in the spectacular 200 km for which the river is so well known, and may be travelled by nearly anyone. For those with the time and skills there is an exciting whitewater trip starting at Moose Ponds – Nahanni's headwaters.

When you select your trip dates you may consider the following:

- Early and late season trips have greater opportunities for solitude.
- Late season tends to guarantee fewer mosquitoes and beautiful colors.
- Early season has "round the clock daylight", a real novelty. Mid to late season has evening and morning light conditions; a concern for serious photographers.
- Early season tends to have higher water which lends to easier paddling. Late season finds less silt in the water for better fishing.
- Lower water in late season means longer days of paddling. This is primarily of concern to those in the 17' canoes.
- Finally, if you are confused as to which criteria you prize more highly, come when your holiday time will allow.

Selecting your craft

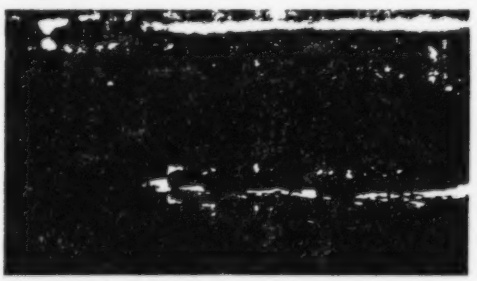
Whether you choose to see the river from the secure Voyageur canoe, the exciting 17' canoe or the stable raft, we are sure you will not be disappointed. Here are some guidelines to aid in your selection:

- *17' canoe* – requires a level of fitness that allows for paddling with a partner from 3 to 8 hours per day. Although friends often paddle together, we reserve the right to mix and match partners to produce the most safe and enjoyable combination.
- *Voyageur canoe* – these large canoes will carry up to 7 participants each. Although everyone is required to paddle, as in the 17' canoes, there is a guide in your boat to navigate and steer.
- *Raft* – These are the largest and more stable of the craft. Each raft is outfitted with a pair of oars for the guide. This eliminates the need for participants to paddle unless they wish.

Private group tours

If you are planning a Nahanni trip with a group of friends, you may wish to consider our services. Perhaps you may be interested in a fully outfitted and guided trip or you may simply wish information concerning canoe rentals or other northern logistical concerns. Please indicate your specific needs if you contact us in this regard.

Frequently, individuals planning their own trip become frustrated with the complexity of the task and end up joining one of ours. When everything is considered they really are quite a good deal!



Common Goldeye and family

When we outfit and guide a private group we charge for a minimum group size of five. Contact us for more details concerning private group trips.

I had such a great experience on the Nahanni that this year I decided to again choose Nahanni River Adventures for a trip down the Tatshenshini. Both trips offer breathtakingly beautiful scenery, exciting stretches of river and an opportunity to enjoy a part of the world that few people have the chance to experience. The guiding was excellent, with the guides always being flexible to ensure that everyone enjoyed the trip to the fullest. The food was great too! I would go again, with no hesitation!

– Joan McGregor

9

Selecting a trip
Selecting your craft
Private group tours
A note concerning dates and fees
Trip insurance
Our refund policy

A note concerning dates and fees

The dates listed are the arrival and departure dates from Fort Simpson, NWT. Book your flights to arrive and depart on dates listed. The fees include all services inclusive of these dates including the upriver flight, which incidentally is a major part of the trip fee. Ground transportation from Blackstone Territorial Park back to Fort Simpson is also included.

All trips may accommodate beginners, with the exception of the three-week whitewater trip. Each trip includes many of the sights and attractions for which the river is renowned.

Goods and Services Tax
Please note that the 7% Goods and Services Tax applies to our trips and is ***not*** included in the prices quoted. Those from outside Canada are eligible for a partial rebate. This is arranged at the Canadian Customs station on your return.

The US dollar currently enjoys a 10% advantage when the exchange rate is calculated.

Trip insurance

To avoid losing your fee due to unforseen circumstances, we provide trip insurance. The terms of the policy are similar to those covering airline tickets, a detailed description is available from our office. The insurance adds approximately 5% to the cost of your trip, but ensures peace of mind and is strongly recommended. The insurance company requires that the policy is purchased at the time of registration only. If you choose to insure, you must include the insurance fee with your deposit.

I have travelled twice with Nahanni River Adventures and have been very pleased with their operation. Guides were competent professionals who were concerned with my safety and enjoyment. Equipment was good. Campsites were left clean. I can recommend this outfitter without reservation.
– D. W. Clarke, Professor Emeritus, University of Toronto

Our refund policy

Planning a northern adventure requires a lot of work and expense on our part, hence the need for a firm commitment. To any refund we must apply a $35 administration fee, plus the cost of your travel insurance, if you have opted for it. Notice of cancellation given prior to 60 days of trip commencement will receive the full balance, less the administration charge. For cancellation 60 days and closer to trip dates, a refund is not available unless you find a replacement.

If you are uncertain about your ability to commit, please purchase cancellation insurance upon deposit, and realize it covers only certain circumstances.

Suggested reading

Perusing any or all of these sources will enhance a trip on the Nahanni. As you read please recognize that both paddling and outfitting skills have evolved considerably even in the last decade. Consequently, some of these sources tend to overemphasize the difficulty of the National Park.

Books

The Dangerous River, R. M. Patterson. Stoddart Publishing, Toronto, 1989.

Nahanni, Turner. Hancock House Publishing, Saanichton, BC, 1975.

Nahanni Trail Head, Ronan Moor. Deneau and Greenburg, Ottawa, 1980.

Path of the Paddle, Mason. Van Nostrand-Reinhold, Toronto, 1980.

Song of the Paddle, Mason. Key Porter, Toronto, 1988.

South Nahanni Kanu-Abenteuer Im Nordem Kanadas, Arved Fuchs. 'Pietsch Verlag, 1986.

The Nahanni Portfolio. Pat and Rosemarie Keough. Stoddart, Toronto, 1988.

Run it on the left!

Articles

"Canoe Exploration of Nahanni National Park", *Canadian Geographic*, June/July 1980.

"Canoeing the Nahanni River", *Canoe*, May 1988.

"Nahanni: A Long Delayed Adventure", Alon Johnson, *New Trail*, Spring 1989, University of Alberta Alumni Association.
"Nahanni Legends", *River Runner*, February 1988.

"Nahanni Mystique", *Explore*, June 1988.

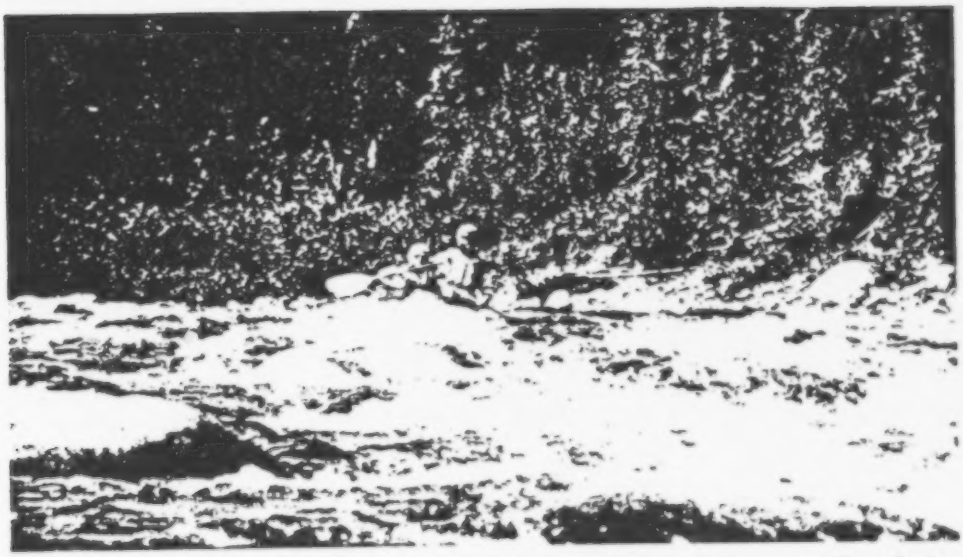
National Geographic, September 1981.

"Strange Landforms of South Nahanni", *Canadian Geographical Journal*, February/March 1977.

Booking more than a year in advance

We have found that some people like to plan more than a year ahead. If this is your situation, you may wish to book now to secure the dates you wish and avoid disappointment. Although our dates are not confirmed for the following year until fall it is still possible to pick a time period and type of trip. When you book, give the dates from a similar 1992 trip and we will reserve the closest dates to that time as soon as we confirm the next season's schedule.

Applications prior to the end of September will be considered at the current year's rates. The deposit is the same as that of the current year.



Continuous whitewater action on the first portion of the three-week whitewater trip beginning at Moose Ponds

Please call

Consider a phone call early in your research. I enjoy dicussing the Nahanni over the phone. I purposefully try to answer or return calls myself as I know and appreciate the value of first hand contact. Due to the nature of my livelihood I am not always near a regular phone so be prepared to be call forwarded to a radio phone or an answering machine. I have found it is well worth the trouble and insures that the information you get is accurate. June through August finds me on the Nahanni and personal contact is reduced to one or two days every couple of weeks although you will likely reach one of my family members who are Nahanni specialists in their own right. Whenever you call be sure to let it ring a number of times as I may be in the shop working on a canoe! My number is (403) 439-1316. In dire straits you may call my home number (403) 444-5183.

Our new Nahanni video

For many years we have had a standing offer to copy our Nahanni video for anyone sending a blank VHS tape with return postage. This year we have new footage taken on our Nahanni and Tatshenshini trips. Those who have the old copies are welcome to return them for recopying. If you have not taken us up on this offer in the past, feel free to do so. Please allow plenty of time for return. There is no magic to the process. We will make your copy in the living room between trips and other responsibilities.

The Nahanni presentation

Years of paddling down the river with good photographers has provided the basis of a slide and sound presentation that must be seen to be appreciated. The music was created by Ian Tamblyn, a musician from Ottawa whose recording company, North Track Records, has a reputation for quality second to none. I have travelled to many places to present the show and for some large audiences. If you have a group that would like to see the show, please contact me.

Rentals

For those attempting their own northern trip we can arrange rental of the following:

- *Canoes* - ABS Old Town, Mad River, including spray decks. $28 Cdn/day. $75/day for overdue canoes. Canoe bookings are available for July or August. Any rental crossing from one month into the next necessitates an automatic 3-week minimum rental. In all cases the user is responsible for returning the canoes to Fort Simpson.
- *Rafts* - 16', self bailing, includes pump $150/day. Overdue charge $300/day/raft.
- *Paddles and PFDs* - $15/item total when accompanying a boat rental.

Note - A 50% deposit in Canadian funds is required to reserve equipment and the balance is due 60 days prior to the trip date. Rental periods include the fly-in day and continue until the equipment is returned to Fort Simpson. There is no refund for early return of equipment.

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Please call
Our Nahanni video
The Nahanni presentation
Rentals
Getting involved
You should know
Discounts

Getting involved

We accept applications on a first come, first served basis. You are encouraged to apply early as we cannot overfill our trips. Upon receipt of your application we will send you the final details to aid you in preparation.

A deposit of 20% of the trip fee is required to hold your place. The balance of the fee is due 60 days prior to trip commencement. Payment must be in Canadian funds.

A visitor for supper

You should know

Although it has never yet happened, if a participant requires evacuation for any reason, the expenses incurred through the evacuation will be borne by the participant(s) evacuated. Please check your Health Plan to see if this is covered.

- Should we be forced to change itineraries or locations due to circumstances beyond our control (e.g. forest fires or river levels) the new plan will be left to our discretion.
- Though it has never happened before, we reserve the right to cancel a trip up to fourteen (14) days prior to the starting date (we require more than four participants to go ahead with a trip). If we must cancel, a full refund will be made. If this occurs we will endeavor to meet your needs with another trip at the earliest possible date.
- No matter where you travel in the world, it is possible that conditions beyond anyone's control may alter your itinerary. Our priority is to safely bring everyone back "on time". Should we face a situation that requires an unforeseen expense, such as an egress flight due to a bridge washout, etc., the cost will be divided among the participants. We have not encountered such a situation, but wish to be "up front" about the policy.
- We will not take an unnecessary risk by travelling any river if the water volume is identified as too high according to our standards. In such situations we sit tight until the volume drops or we can arrange an egress flight. The cost of such arrangements would be shared evenly amongst the participants.

Discounts

Send in your deposit prior to January 31 and you receive a $50 Cdn discount off the final payment.

For each month prior to May 1 that we receive total payment, we will deduct 1% from the fee (e.g., balance of $2000 paid 5 months before May 1 would save $100).

Tent discount

If you provide your own free standing tent and fly deduct $20 per person per week.

Paddle and life jacket discount

You may deduct $15 per trip for each if you bring your own.

Having heard for years of the "mysterious Nahanni", it was a special thrill to actually travel by canoe on that legendary river. A marvelous holiday for those of any age who love the wilderness. My follow-up trip on the Tatshenini rivalled the Nahanni in every regard. **– Muriel Clark**

Other adventures and services - summer and winter

The Rocky Mountain Canoe School

Nearly two decades of instructing canoeing on the rivers that flow from the eastern slopes of the Rockies have earned Randy Clement the reputation as a master instructor. Randy's personalized approach to teaching is second to none. He also offers a variety of canoe trips in Western Canada. If you desire quality instruction please contact us for more information. Randy and his fellow instructors use a personalized approach to teaching that is second to none.

The Kootenay River

Outfitted and guided through the Rocky Mountain Canoe School, with your guide Randy Clement, you experience a six-day whitewater trip of unsurpassed quality. The voyage starts in Kootenay National Park adjacent to Banff in the Canadian Rockies, and covers 140 km of scenic mountains and canyons. Canoeists should be capable of negotiating class II and III rapids.

For more information about the Rocky Mountain Canoe School or the Kootenay River trip please contact:
Randy Clement
The Rocky Mountain Canoe School
Box 1873
Canmore, Alberta
T0L 0M0
☎ (403) 678-4922

Subarctic Wilderness Adventures

Have you lived in a teepee, travelled by dog sled, rafted the great Slave River or explored the Salt Plains and seen the bison of Wood Buffalo National Park. Your host Jacques Van Pelt will introduce you to any of these activities with contagious enthusiasm.

SAWA is one of the partners in our "Boreal Woods and Waters" trip.

Both of my expeditions with Nahanni River Adventures have met or exceeded my expectations in every area. Keep up the good work and I'll look forward to the next trip!
– Peter Strawson

Boreal Woods and Waters Canada

This trip is for those who have extended holiday time and wish to see other parts of the subarctic in addition to the Nahanni.

The journey originates in Wood Buffalo National Park where you experience the Slave River by raft. From here you fly to Great Slave Lake where a sailing yacht will meet you for a sailing trip across the "East Arm" of Great Slave Lake. Arriving in Yellowknife, you will fly to Fort Simpson to connect with a float plane charter up the Nahanni River. A voyageur canoe trip down the Nahanni is the "Grand Finale". The adventure combines the services of Nahanni River Adventures, Subarctic Wilderness Adventures and Sail North.

The three bears

Please inquire for more details concerning this unique experience.

Osprey Outfitters – quality outdoor garments

Terry and Lisa Palechuk of Osprey Outfitters have been guiding with us on the Nahanni for a number of years and know the value of comfortable, reliable outdoor clothing. With this in mind, they operate their own cottage industry, manufacturing outerwear. Specifically, they work with Polarplus, Polarlite, Polartek fleece and Supplex (quick dry) nylon. I rely on their clothing while guiding, and I am sure you will be pleased with it. As Terry and Lisa have said, "quality gear is important, and guiding on the Nahanni puts our gear to the test. If we can't rely on it for a season on the river, we won't manufacture it". For more information or to discuss your outerwear needs, write or call:
Osprey Outfitters
11440 - 38 Avenue
Edmonton, Alberta T6J 0L4
(☎ 403/436-9717)

Nahanni River Adventures 1992 dates and prices

Prices in Canadian funds / 7% GST not included

Two-week national park trip

Beginning at Rabbitkettle Lake, this trip takes in Rabbitkettle Hot Springs, Virginia Falls, Painted Canyon, The Gate, Pulpit Rock, Big Bend, the Canyons, Deadmen Valley, White Spray Springs and Kraus Hot Springs. Paddling skills are an advantage but not a priority, although physical fitness and comfort on the water are important. If this makes you hesitant you may wish to consider a "Voyageur Canoe" trip.

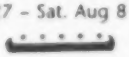
OCC-01 Fri. June 19 – Thurs. July 2
OCC-02 Fri. July 3 – Thurs. July 16
OCC-03 Fri. July 17 – Thurs. July 30
OCC-04 Fri. July 31 – Thurs. Aug 13
OCC-05 Fri. Aug 14 – Thurs. Aug 27

Fee $2,550 Cdn

Twelve-day voyageur canoe from Rabbitkettle Lake

Travelling the same route as the two-week trip, this trip will utilize the large and stable 27' Voyageur "North Canoes" to ply the waters of the Nahanni. In addition to moving through the water more efficiently, the large canoe allows each person to be in the same boat as the guide. Everyone contributes to paddling, but the pressure to keep up is not as great as in the 17' canoes. If paddling is a concern to you, it may be wise to select the raft float trip, where paddling is not as critical. Camp routine is no different with the large canoe. A scale model of our voyageur canoe may be seen in the Kanawa International Canoe Museum.

VC-04 Mon. July 27 – Sat. Aug 8

Fee $2,450 Cdn 

Ten-day voyageur canoe from Virginia Falls

Especially attractive to those who have limited holiday time, this trip begins at Virginia Falls and includes all the scenery and attractions of the Canyons, Deadmen Valley, and Kraus' Hot Springs.

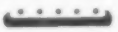
VC-01 Fri. June 26 – Mon. July 6
VC-03 Tues. July 14 – Fri. July 24
VC-05 Tues. Aug 11 – Fri. Aug 21
VC-06 ~~Wed~~ Tues. Aug 25 – Fri. Sept 4

Fee $2,350 Cdn

Six-day voyageur canoe from Rabbitkettle Lake to Virginia Falls

This trip was conceived for those who desire a short trip on very easy water with a scenic backdrop. My mother and my two-year-old son and his mother were among the crew last year. There will be opportunity for hiking at Rabbitkettle Lake and Virginia Falls. On the flight out we will get a "birds eye" view of the Painted Canyon and other sights down river. Both upriver and down river flights are covered in the fee.

VC-02 Thurs. July 9 – Wed. July 15

Fee $1,950 Cdn 

Ten-day raft from Virginia Falls

Following the same route as the Ten-day voyageur, this float trip is suited to those who are dubious about paddling. The guide is prepared to do the work with his oars, but everyone is welcome to swing a paddle. However, the schedule is designed to accommodate longer days of floating on the river.

R-01 Wed. June 24 – Fri. July 3
R-02 Wed. July 8 – Fri. July 17

Fee $2,350 Cdn

Three-week whitewater from the Moose Ponds

Originating at Moose Ponds, the headwaters of the Nahanni, this trip includes the sensational scenery of the National Park trips plus spectacular rapids in the form of continuous Grade II and III whitewater. Experience is essential. We have found that most of our participants on this trip have attempted to organize a trip on their own and after one or more seasons of frustrated attempts they join our group. Participants considering this trip should be graduates of an advanced whitewater course and be able to answer the following:

- Which direction do you lean the canoe when:
  - executing an eddy turn?
  - ferrying?
- What is a good rule of thumb for setting the ferry angle?
- What do the designations Class II, III and IV rapids indicate?

OCWW-01 Mon. July 6 – Mon. July 27

Fee $3,395 Cdn

APPENDIX 2

Pre-Experience Questionnaire:

Study Group

Is there anything else you would like to tell us about the topics dealt with in this questionnaire? If so, please use this space for that purpose.

Your contribution to this project is greatly appreciated. Once again I would remind you that if you would like a summary of the results, please write "Copy of results requested", together with your name and address, on the back of the return envelope (NOT on the questionnaire). We will make sure you receive it. We would also like to wish you a great trip on the Nahanni.

Guided Wilderness Canoe Trips and Environmental Attitudes

Wilderness Canoeing and Environment Project
c/o Department of Recreation and Leisure Studies
University of Alberta
Edmonton, Alberta T6G 2H9

A. Past Experience

THIS FIRST GROUP OF QUESTIONS DEAL WITH YOUR PAST WILDERNESS EXPERIENCES.

Q-1. Have you been to Nahanni National Park in the past? (*Circle Number*)

1 NO (GO TO Q-4.)
2 YES

Q-2. When were you there? (*Fill in the Blanks*)

MONTH _____.
YEAR _____.
LENGTH OF VISIT(DAYS) _____.

Q-3. Did you travel down the River? (*Circle Number*)

1 NO
2 YES

Q-4. Will this be the first guided wilderness canoe trip that you have participated in? (*Circle Number*)

1 NO
2 YES (GO TO Q-6.)

Q-5. How many other guided wilderness canoe trips have you participated in? (*Circle Number*)

1 1 - 2
2 3 - 4
3 5 - 6
4 6 or more

Q-6. Did you participate in any of the following activities as a child or adolescent? (*Circle Number(s)*)

1 FAMILY CAMPING (AUTO)
2 FAMILY CAMPING (PRIMITIVE)
3 WILDERNESS CAMPING

Q-7. As a child or adolescent, did you become involved in outdoor education/recreation programming offered through any of the following organizations? (*Circle Number(s)*)

1 SCOUTS/GUIDES
2 BOYS AND/OR GIRLS CLUB
3 Y.M.C.A./Y.W.C.A.
4 4-H
5 MUNICIPAL CAMPS
6 CHURCH CAMPS
7 SCHOOL CAMPS
8 OTHER FORMAL CAMP
EXPERIENCE_____.

Q-8. Over the past two years have you subscribed to any outdoor recreation or environmental magazines or journals? (*Circle Number*)

1 NO (GO TO Q-10.)
2 YES

Q-9. Please list the title(s). (*Fill in the Blanks*)

_____
_____
_____

Q-10. Over the past two years, have you belonged to any outdoor recreation or environmental clubs or organizations? (*Circle Number*)

1 NO (GO TO Q-12.)
2 YES

Q-11. Please list the one(s) you belong(ed) to. (*Fill in the Blanks*)

_____
_____
_____

Q-12. Over the past two years, have you been actively involved in any environmental issues? (eg. writing newspapers, lobbying government, attending hearings, etc.) (*Circle Number*)

1 NO (GO TO Q-14.)
2 YES

Q-13. Please describe the issue and your involvement. (*Fill in the Blanks*)

ISSUE	YOUR INVOLVEMENT

Q-14. Please indicate the total number of conservation/environmental courses that you have ever taken. (eg. University, College, evening or weekend courses.) (*Circle Number*)

1 0
2 1 - 5
3 6 - 10
4 11 - 15
5 16 - 20
6 21 or more

B. Why the Nahanni River?

[illegible]ONE CHOOSES TO GO TO THE NAHANNI RIVER FOR THE SAME REASONS. [illegible]E, IT IS IMPORTANT THAT WE KNOW WHY YOU CHOSE TO GO TO THE NAHANNI [illegible]

[illegible]ow did you first find out about the Nahanni as a holiday destination? (*Circle Number(s)*)

1 FRIENDS OR FAMILY WHO HAVE BEEN THERE
2 MAGAZINE ARTICLE. MAG?_____
3 MAGAZINE ADVERTISEMENT. MAG?_____
4 OUTFITTERS BROCHURE
5 TRAVEL ARCTIC
6 PARKS CANADA
7 SLIDE SHOW. WHAT CITY? _____
8 OTHER _____

Q-16. Why did you choose to go with a commercial outfitter as opposed to a privately organized and outfitted trip? (*Circle Number(s)*)

1 CONVENIENCE OF ORGANIZED TRIP
2 LACK OF TIME AND ENERGY TO ORGANIZE PRIVATE TRIP
3 LACK OF FRIENDS AND ACQUAINTANCES INTERESTED IN A PRIVATE TRIP
4 LACK OF KNOWLEDGE REQUIRED TO ORGANIZE TRIP
5 SAFETY OF OUTFITTER
6 LACK OF KNOWLEDGE OF WILDERNESS TRAVEL TECHNIQUES
7 OTHER_____

Q-17. What made you choose Nahanni River Adventures as opposed to other outfitters on the River? (*Circle Number(s)*)

1 DATES AVAILABLE
2 VOYAGEUR CANOES
3 RECOMMENDATION FROM FRIENDS OR FAMILY
4 ATTENTION TO DETAIL EXPRESSED IN INFORMATION PACKAGE
5 PERSONAL ATTENTION RECEIVED FROM NAHANNI RIVER ADVENTURES
6 ENVIRONMENTAL SENSITIVITY EXPRESSED BY NAHANNI RIVER ADVENTURES
7 OTHER_____

C. Intended Wilderness Activity

THE FOLLOWING QUESTIONS DEAL WITH YOUR FUTURE INTENTIONS FOR WILDERNESS AND ENVIRONMENTAL PRESERVATION ACTIVITIES.

Q-18. Do you think you are likely to travel into a wilderness area(s), other than the Nahanni, over the next twelve (12) month period? (*Circle Number*)

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY (GO TO Q-21.)
4 NOT AT ALL LIKELY (GO TO Q-21.)

Q-19. Please list the activities that you plan to engage in while in that/those areas. (*Fill in the Blanks*)

_____
_____
_____

Q-20. If camping is one of your activities, which of the forms described below will you most likely use? (*Circle Number(s)*)

1 AUTO CAMPING;HIGH ACCESS CAMPGROUNDS
2 SURVIVAL CAMPING (NATURAL SHELTER BUILDING, USE OF FIRES)
3 MINIMUM IMPACT CAMPING;HIGH TECHNOLOGY CAMPING (USE OF STOVES, TENTS)
4 COMBINATION SURVIVAL AND MINIMUM IMPACT
5 OTHER_____

Q-21. Do you think you are likely to join an outdoor recreation or environmental club or organization over the next twelve (12) month period? (exclude membership renewals) (*Circle Number*)

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY (GO TO Q-23.)
4 NOT AT ALL LIKELY (GO TO Q-23.)

Q-22. Please note the club(s) or organization(s) you are interested in joining; or, note the activity that you are interested in pursuing. (*Fill in the Blanks*)

_____
_____
_____

Q-23. Do you think you are likely to take an environmental or environmental leadership course(s) over the next twelve (12) month period? (*Circle Number*)

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY (GO TO Q-25.)
4 NOT AT ALL LIKELY (GO TO Q-25.)

Q-24. Please note the environmental course(s) by topic or title. (*Fill in the Blanks*)

_____
_____
_____

Q-25. Do you think you are likely to subscribe to any new outdoor recreation or environmental magazines or journals over the next twelve (12) month period? (exclude subscription renewals) (*Circle Number*)

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY (GO TO Q-27.)
4 NOT AT ALL LIKELY (GO TO Q-27.)

Q-26. Please note the publications by title(s) or topic(s). (*Fill in the Blanks*)

_____
_____
_____

Q-27. Do you think you are likely to become actively involved in an environmental issue(s) in the next twelve (12) month period? (eg. writing newspaper, lobbying government, attending hearings, etc.) (*Circle Number*)

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY (GO TO Q-29.)
4 NOT AT ALL LIKELY (GO TO Q-29.)

Q-28. Please note the environmental issue(s) you are likely to become involved in and your most likely course of action. (*Fill in the Blanks*)

ISSUE(S)	ACTION(S)
_____	_____
_____	_____

Q-29. If the Wahanui River were in some way threatened, would you lobby for its survival? (eg. writing newspapers, lobbying government, attending hearings, etc.)(*Circle Number*)

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY
4 NOT AT ALL LIKELY

D. Recent Wilderness and Environmental Preservation Activities

WE REALIZE THAT THIS SECTION MAY OVERLAP WITH YOUR GENERAL PAST EXPERIENCES DESCRIBED IN SECTION "A". HOWEVER, WE ARE INTERESTED HERE IN A PARTICULAR TIME PERIOD, SO WE WOULD ASK YOU TO DESCRIBE THE APPROPRIATE EXPERIENCES EVEN IF THEY HAVE ALREADY BEEN INCLUDED. AS WELL, PLEASE DESCRIBE *ONLY* THOSE ACTIVITIES IN WHICH *YOU HAVE ACTUALLY BEEN INVOLVED.*

Q-30. Did you travel into a wilderness area(s) in the last 12 months? (*Circle Number*)

1 NO (GO TO Q-33.)
2 YES

Q-31. Please list the activity(ies) you engaged in while in that/those area(s). (*Fill in the Blanks*)

_____
_____
_____

Q-32. If camping was one of the activities, which of those forms described below did you use? (*Circle Number*)

1 AUTO CAMPING;HIGH ACCESS CAMPGROUNDS
2 SURVIVAL CAMPING (EG. NATURAL SHELTER BUILDING, BUILDING FIRES)
3 MINIMUM IMPACT CAMPING (EG. USE OF STOVES AND TENTS)
4 COMBINATION SURVIVAL AND MINIMUM IMPACT

Q-33. Did you participate in any environmental or environmental leadership course(s) in the last 12 months? (*Circle Number*)

1 NO (GO TO Q-35.)
2 YES

Q-34. Please note the environmental course(s) by title or topic. (*Fill in the Blanks*)

_____
_____
_____

Q-35. Did you subscribe to any new outdoor recreation or environmental magazines or journals in the last 12 months? (exclude subscription renewals) (*Circle Number*)

1 NO (GO TO Q-37.)
2 YES

Q-36. Please note the publications by title(s) or topic(s). (*Fill in the Blanks*)

_____
_____

E. Environmental Attitude

BELOW ARE SOME STATEMENTS DEALING GENERALLY WITH ISSUES RELATED TO RESOURCES AND THE ENVIRONMENT. IT IS IMPORTANT THAT WE KNOW WHAT YOUR PRESENT ENVIRONMENTAL ATTITUDE IS.

Q-37. PLEASE READ EACH STATEMENT CAREFULLY, THEN CIRCLE THE NUMBER THAT CORRESPONDS MOST CLOSELY TO *YOUR OPINION* ABOUT THAT STATEMENT. THERE ARE NO RIGHT OR WRONG ANSWERS: WE ARE ONLY INTERESTED IN *YOUR* OPINION.

SD = STRONGLY DISAGREE
D = DISAGREE
N = NEUTRAL
A = AGREE
SA = STRONGLY AGREE

Humans have the right to modify the environment to suit their needs	SD	D	N	A	SA
Science and technology often do as much harm as good	SD	D	N	A	SA
In general, the Canadian/American people would be better off if the nations' economy stopped growing	SD	D	N	A	SA
The positive benefits of economic growth far outweigh any consequences	SD	D	N	A	SA
Economic growth improves the quality of life for all Canadians/Americans	SD	D	N	A	SA
More emphasis should be placed on teaching children about nature than on teaching them about science and technology	SD	D	N	A	SA
The earth is like a spaceship with only limited room and resources	SD	D	N	A	SA
In the long run, there are no limits to the extent to which we can raise our standard of living	SD	D	N	A	SA
To maintain a healthy economy, we will have to develop a "steady state" economy where industrial growth is controlled	SD	D	N	A	SA
We can continue to raise our standard of living through the application of science and technology	SD	D	N	A	SA
There are limits to growth beyond which our industrialized society cannot expand	SD	D	N	A	SA
The balance of nature is very delicate and easy to upset	SD	D	N	A	SA
Humans need not adapt to the environment because they can remake it to suit their needs	SD	D	N	A	SA
Plants and animals exist primarily to be used by humans	SD	D	N	A	SA
When humans interfere with nature, it often produces disastrous consequences	SD	D	N	A	SA
Mankind was created to rule over the rest of nature	SD	D	N	A	SA
Rapid economic growth often creates more problems than benefits	SD	D	N	A	SA
Most problems can be solved by applying more and better technology	SD	D	N	A	SA
Mankind is severely abusing the environment	SD	D	N	A	SA
Humans must live in harmony with nature in order to survive	SD	D	N	A	SA
Canadians/Americans are going to have to drastically reduce their consumption of material goods over the next few years	SD	D	N	A	SA
We are approaching the limit to the number of people the earth can support	SD	D	N	A	SA
We attach to much importance to economic measures of the level or well-being in our society	SD	D	N	A	SA
We *cannot* keep counting on science and technology to solve mankind's problems	SD	D	N	A	SA

Q-38. What do *you* feel it means to be environmentally concerned? (*Fill in the Blanks*)

_____

_____

_____

Q-39. Please identify three key behaviors or actions that *you consider* reflect an environmentally concerned individual. (*Fill in the Blanks*)

_____

_____

_____

Q-40. Please rate how environmentally concerned *you* feel that *you* presently are. (*Circle Number*)

1 VERY CONCERNED
2 SOMEWHAT CONCERNED
3 NOT TOO CONCERNED
4 NOT AT ALL CONCERNED

Q-41. Do you feel that your participation in a guided wilderness canoe trip on the Nahanni River will contribute to the preservation of that specific environment? (*Circle Number*)

1 NO
2 YES

Q-42. Please explain the reason(s) for your answer to question 41. (*Fill in the Blanks*)

_____
_____
_____
_____

Q-43. Do you feel that your participation in a guided wilderness canoe trip on the Nahanni River will contribute to the preservation of other natural environments? (*Circle Number*)

1 NO
2 YES

Q-44. Please explain the reason(s) for your answer to question 43. (*Fill in the Blanks*)

_____
_____
_____
_____

F. Personal Data

FINALLY, WE WOULD LIKE TO ASK A FEW QUESTIONS ABOUT YOURSELF FOR STATISTICAL PURPOSES.

Q-45. What is your sex? (*Circle Number*)

1 MALE
2 FEMALE

Q-46. In what year where you born? (*Fill in the Blank*)

19__.

Q-47. What is your marital status? (*Circle Number*)

1 NEVER MARRIED
2 MARRIED
3 SEPARATED
4 DIVORCED
5 WIDOWED

Q-48. Do you have any dependent children? (*Circle Number*)

1 NO
2 YES

Q-49. What is your present place of residence? (*Circle Number*)

1 URBAN
2 SMALL TOWN
3 RURAL, NON-FARM
4 FARM
5 OTHER (SPECIFY) _____

Q-50. What was your place of residence throughout most of your childhood? (*Circle Number*)

1 URBAN
2 SMALL TOWN
3 RURAL, NON-FARM
4 FARM
5 OTHER (SPECIFY) _____

Q-51. In which province or state did you reside throughout most of your childhood? (*Fill in the Blanks*)

_____

Q-52. What is the highest level of education that you have completed? (*Circle Number*)

1 HIGH SCHOOL OR LESS (GO TO Q-54.)
2 POST-SECONDARY/TECHNICAL (GO TO Q-54.)
3 SOME UNIVERSTIY STUDY (GO TO Q-54.)
4 A BACHELOR'S DEGREE
5 SOME POSTGRADUATE STUDY
6 A GRADUATE DEGREE (MASTERS OR Ph.D.)

Q-53. What was (or is) your major? (Please identify the main subject you studied at University) (*Fill in the Blanks*)

_____

Q-54. Please estimate the gross income (before taxes) of your *household* for 1990. (*Circle Number*)

1 $9,999 or less
2 $10,000 - $19,999
3 $20,000 - $29,999
4 $30,000 - $49,999
5 $50,000 - $69,999
6 $70,000 - $89,999
7 $90,000 - $109,999
8 $110,000 or more

Q-55. What is your occupation? (*Fill in the Blank*)

_____

APPENDIX 3

Cover Letters

University of Alberta
Edmonton
Canada T6G 2H9

Department of
Recreation and Leisure Studies

E401 Van Vliet Physical Education and Recreation Centre
Telephone (403) 492-5171
Fax (403) 492-2364

May 6, 1991.

Mr. John Doe
123 Street Name
Your City, Prov/State
Country, Postal Code

Dear Mr. Doe

The opportunities for tourists to travel into wilderness areas are steadily increasing in number and popularity. These opportunities could greatly affect the quality of the wilderness in the areas visited as well as on a global scale. Although it is hoped that this effect is predominantly positive, nobody really knows.

You can play an important role in a study involving guided wilderness canoe trips and environmental attitudes. I would like to ask you to please consider participating by answering two questionnaires, one now and one in late October, 1991. The total time required will be approximately twenty (20) to thrity (30) minutes for each.

This study is being conducted with the complete cooperation of Nahanni River Adventures Ltd. (NRA). Your participation is entirely voluntary and you are assured complete confidentiality. Only statistical totals will be published. The questionnaire has an identification number for the sole purpose of matching your first and second questionnaires; once matched, the master list of names will be destroyed. Your name will *never* be placed on the questionnaires.

The results of this research will be made available to NRA, the Government of the Northwest Territories and Parks Canada. You may also receive a summary of the results by writing "copy of results requested" on the back of the return envelope, and printing your name and address below it. Please *do not* put this information on the questionnaire itself.

This research is being conducted under the supervision of Dr. T.L. Burton, Department of Recreation and Leisure Studies at the University of Alberta. Dr. Burton would be most happy to answer any questions that you might have. Please write or call. He can be reached during office hours (8:30-4:30) at (403)-492-5171.

Thank-you for your assistance.

Sincerely,

Morten Asfeldt.
Graduate Student

University of Alberta
Edmonton

Canada T6G 2H9

Department of
Recreation and Leisure Studies

E401 Van Vliet Physical Education and Recreation Centre
Telephone (403) 492-5171
Fax (403) 492-2364

April 25-28, 1991

Alberta Rivers Conference 1991
Edmonton, Alberta

The opportunities for tourists to travel into wilderness areas are steadily increasing in number and popularity. These opportunities could greatly affect the quality of the wilderness in the areas visited as well as on a global scale. Although it is hoped that this effect is predominantly positive, nobody really knows.

You can play an important role in a study involving guided wilderness canoe trips and environmental attitudes. I would like to ask you to please consider participating by answering two questionnaires, one now and one in late October, 1991. The total time involved will be approximately twenty (20) to thirty (30) minutes for each.

Your participation is completely voluntary and you are assured complete confidentiality. Only statistical totals will be published. The questionnaire has an identification number for the sole purpose of matching your first and second questionnaires; once matched, the master list of names will be destroyed. Please print your name and address on the back of the return envelope so that we can reach you in the fall. Your name will *never* be placed on the questionnaires.

This research is being conducted under the supervision of Dr. T.L. Burton, Department of Recreation and Leisure Studies at the University of Alberta as well as with the complete cooperation of Nahanni River Adventures Ltd. (NRA). The results will be made available to NRA, the Government of the Northwest Territories and Parks Canada. You may also receive a summary of the results by writing "copy of results requested" on the back of the return envelope, along with your printed name and address. Please *do not* put this information on the questionnaire itself.

Dr. Burton would be most happy to answer any questions that you might have. Please write or call. He can be reached during office hours (8:30-4:30) at (403)-492-5171.

Thank-you for your assistance.

Sincerely,

Morten Asfeldt

Morten Asfeldt.
Graduate Student

University of Alberta
Edmonton
Canada T6G 2H9

Department of
Recreation and Leisure Studies

E401 Van Vliet Physical Education and Recreation Centre
Telephone (403) 492-5171
Fax (403) 492-2364

Morten Asfeldt
416-1815-111A Street
Edmonton, Alberta
T6J-4T8

May 2, 1991

Richard Deacon
Sobek Canada
159 Main Street
Unionville, Ontario
L3R-2G8

Dear Mr. Deacon

I am a graduate student at the University of Alberta in Edmonton and am presently conducting a research project that examines the relationship between participation in guided wilderness canoe trips and environmental attitude. I have guided on the Nahanni River for Neil Hartling of Nahanni River Adventures for six years; consequently, Neil has been most cooperative in allowing me access to his 1991 guests.

The reason I write to you is that there are two people, Barbara Dikty and Julie Ann, on his guest list that he does not have an address for. These two people are coming through Sobek Canada and I am hoping that you will forward these questionnaires to them. I have enclosed a sample questionnaire for you to review if you like. There is a limited number of people available to participate in this study; therefore, it is important that I reach them all.

If you have any questions you can leave a message for me at (403)-672-5095 until the 10th of May. If you are unable to reach me please feel free to contact Neil Hartling at (403)-439-1316.

Thank-you very much for your time and assistance in this matter.

Sincerely,

Morten Asfeldt
Graduate Student

University of Alberta
Edmonton
Canada T6G 2H9

Department of
Recreation and Leisure Studies

E401 Van Vliet Physical Education and Recreation Centre
Telephone (403) 492-5171
Fax (403) 492-2364

Morten Asfeldt
416-1815-111A Street
Edmonton, Alberta
T6J-4T8

May 2, 1991

Elzinga Adventures
102 Bloor Street West, #620
Toronto, Ontario
M5S-IM8

Dear Nanditta

I am a graduate student at the University of Alberta in Edmonton and am presently conducting a research project that examines the relationship between participation in guided wilderness canoe trips and environmental attitude. I have guided on the Nahanni River for Neil Hartling, of Nahanni River Adventures, for six years; consequently, Neil has been most cooperative in allowing me access to his 1991 guests. I understand that Neil has spoken too you about my situation, he said you were very helpful.

Part of this study requires that all Nahanni River Adventure's quests complete a questionnaire; this of course is completely voluntary on their behalf. There are a limited number of people available to participate in this important study; therefore, it is extremely important that I reach all the quests for the upcoming season. As you are aware there are a number of people who have come to Nahanni River Adventures through Elzinga Adventures. These people do not have an address on Niel's mailing list; hence, I would appreciate your help.

I have enclosed 17 questionnaire packages as this is the number of people coming from Elzinga Adventures. I have also include a sample questionnaire for you to reveiw if you like. I would be greatful if you would mail these packages to the appropriate people, anybody participating in a Nahanni River trip with Nahanni River Adventures Ltd. in 1991. I have attached adequate postage for all packages to be sent to the U.S., this of course is not a problem if they go to Canadian addresses. However, if any addresses are overseas, would you please attach additional postage and sent me the bill.

If you have any questions, please call Neil at (403)-439-1316 as I am not at a telephone for the month.

Thank-you very much for your time and assistance in this matter.

Sincerely,

Morten Asfeldt
Graduate Student

APPENDIX 4

Reminder Card

You should have recently received a questionnaire seeking your participation in a study regarding Guided Wilderness Canoe Trips and Environmental Attitudes.

If you have already completed and returned it to us please accept our sincere thanks. If not, please take the time to do so today. There is only a limited number of people in a position to provide the information necessary for this study, therefore, it is extremely important that your responses are included in the data.

In the event that you did not receive a questionnaire, please call or write Dr. T.L. Burton at (403)-492-5171, Department of Recreation and Leisure Studies, The University of Alberta, Edmonton, Alberta, T6G-2H9.

Once again, I would like to wish you a great trip on the Nahanni River.

In appreciation,

Morten Asfeldt
Graduate Student

APPENDIX 5

Post-Experience Questionnaire:

Study Group

Is there anything else you would like to tell us about the topics dealt with in this questionnaire? If so, please use this space for that purpose.

Your contribution to this project is greatly appreciated. Once again I would remind you that if you would like a summary of the results, please write "Copy of results requested", together with your name and address, on the back of the return envelope (NOT on the questionnaire). We will make sure you receive it. We hope that you had a great trip on the Nahanni.

Guided Wilderness Canoe Trips and Environmental Attitudes

Wilderness Canoeing and Environment Project
c/o Department of Recreation and Leisure Studies
University of Alberta
Edmonton, Alberta T6G 2H9

A. Your Nahanni River Trip

EVERYONE WHO PARTICIPATES IN A GUIDED WILDERNESS CANOE TRIP HAS A UNIQUE AND DIFFERENT EXPERIENCE. WE WOULD LIKE TO KNOW HOW YOUR NAHANNI TRIP WAS UNIQUE AND DIFFERENT FOR YOU.

Q-1. Please describe briefly, two (2) or three (3) highlights from your trip. *(Fill in the Blanks)*

_____
_____
_____
_____
_____
_____
_____
_____

Q-2. Please describe briefly, any events that occurred during your trip that were particularly meaningful to you; and what impact they have had on you. *(Fill in the Blanks)*

_____
_____
_____
_____
_____
_____
_____
_____

B. Intended Wilderness Activity

THE FOLLOWING QUESTIONS DEAL WITH YOUR INTENDED WILDERNESS AND ENVIRONMENTAL PRESERVATION ACTIVITIES. IT IS IMPORTANT THAT WE KNOW THESE SO THAT WE CAN ASSESS ANY CHANGES THAT MAY HAVE RESULTED FROM YOUR NAHANNI TRIP.

Q-3. Do you think you are likely to travel into a wilderness area(s), over the next twelve (12) month period? *(Circle Number)*

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY (GO TO Q-6.)
4 NOT AT ALL LIKELY (GO TO Q-6.)

Q-4. Please list the activities that you plan to engage in while in that/those area(s). *(Fill in the Blanks)*

_____
_____
_____

Q-5. If camping is one of your activities, which of the forms described below will you most likely use? *(Circle Number(s))*

1 AUTO CAMPING;HIGH ACCESS CAMPGROUNDS
2 SURVIVAL CAMPING (NATURAL SHELTER BUILDING, USE OF FIRES)
3 MINIMUM IMPACT CAMPING;HIGH TECHNOLOGY CAMPING (USE OF STOVES, TENTS)
4 COMBINATION SURVIVAL AND MINIMUM IMPACT
5 OTHER_____

Q-6. Do you think you are likely to join an outdoor recreation or environmental club or organization over the next twelve (12) month period? (exclude membership renewals) *(Circle Number)*

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY (GO TO Q-8.)
4 NOT AT ALL LIKELY (GO TO Q-8.)

Q-7. Please note the club(s) or organization(s) you are interested in joining; or, note the activity that you are interested in pursuing. *(Fill in the Blanks)*

_____
_____
_____

Q-8. Do you think you are likely to take an environmental or environmental leadership course(s) over the next twelve (12) month period? *(Circle Number)*

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY (GO TO Q-10.)
4 NOT AT ALL LIKELY (GO TO Q-10.)

Q-9. Please note the environmental course(s) by topic or title. *(Fill in the Blanks)*

_____
_____
_____

Q-10. Do you think you are likely to subscribe to any new outdoor recreation or environmental magazines or journals over the next twelve (12) month period? (exclude subscription renewals) (*Circle Number*)

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY (GO TO Q-12.)
4 NOT AT ALL LIKELY (GO TO Q-12.)

Q-11. Please note the publications by title(s) or topic(s). (*Fill in the Blanks*)

_____
_____
_____

Q-12. Do you think you are likely to become actively involved in an environmental issue(s) in the next twelve (12) month period? (eg. writing newspaper, lobbying government, attending hearings, etc.) (*Circle Number*)

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY (GO TO Q-14.)
4 NOT AT ALL LIKELY (GO TO Q-14.)

Q-13. Please note the environmental issue(s) you are likely to become involved in and your most likely course of action. (*Fill in the Blanks*)

ISSUE(S)	ACTION(S)
_____	_____
_____	_____
_____	_____

Q-14. If the Nahanni River were in some way threatened, would you lobby for its survival? (eg. writing newspapers, lobbying government, attending hearings, etc.)(*Circle Number*)

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY
4 NOT AT ALL LIKELY

C. Recent Wilderness and Environmental Preservation Activities

THE FOLLOWING QUESTIONS DEAL WITH YOUR MOST RECENT WILDERNESS AND ENVIRONMENTAL PRESERVATION ACTIVITIES. WE ARE INTERESTED IN COMPARING THESE RECENT ACTIVITIES WITH THOSE REPORTED BEFORE YOUR NAHANNI RIVER TRIP. THEREFORE, PLEASE DESCRIBE *ONLY* THOSE ACTIVITIES IN WHICH *YOU HAVE ACTUALLY BEEN INVOLVED*.

Q-15. Did you travel into a wilderness area(s), other than the Nahanni, in the last 6 months? (*Circle Number*)

1 NO (GO TO Q-18.)
2 YES

Q-16. Please list the activity(ies) you engaged in while in that/those area(s). (*Fill in the Blanks*)

_____
_____
_____

Q-17. If camping was one of the activities, which of those forms described below did you use? (*Circle Number*)

1 AUTO CAMPING;HIGH ACCESS CAMPGROUNDS
2 SURVIVAL CAMPING (EG. NATURAL SHELTER BUILDING, BUILDING FIRES)
3 MINIMUM IMPACT CAMPING (EG. USE OF STOVES AND TENTS)
4 COMBINATION SURVIVAL AND MINIMUM IMPACT
5 OTHER _____

Q-18. Did you participate in any environmental or environmental leadership course(s) in the last 6 months? (*Circle Number*)

1 NO (GO TO Q-20.)
2 YES

Q-19. Please note the environmental course(s) by title or topic. (*Fill in the Blanks*)

_____
_____
_____

Q-20. Did you subscribe to any new outdoor recreation or environmental magazines or journals in the last 6 months? (exclude subscription renewals) (*Circle Number*)

1 NO (GO TO Q-22.)
2 YES

Q-21. Please note the publications by title(s) or topic(s).
(Fill in the Blanks)

_____

_____

_____

D. Environmental Attitude

BELOW ARE SOME STATEMENTS DEALING GENERALLY WITH ISSUES RELATED TO RESOURCES AND THE ENVIRONMENT. IT IS IMPORTANT THAT WE KNOW WHAT YOUR PRESENT ENVIRONMENTAL ATTITUDES ARE.

Q-22. PLEASE READ EACH STATEMENT CAREFULLY, THEN CIRCLE THE NUMBER THAT CORRESPONDS MOST CLOSELY TO *YOUR OPINION* ABOUT THAT STATEMENT. THERE ARE NO RIGHT OR WRONG ANSWERS: WE ARE ONLY INTERESTED IN *YOUR* OPINION.

SD = STRONGLY DISAGREE
D = DISAGREE
N = NEUTRAL
A = AGREE
SA = STRONGLY AGREE

Humans have the right to modify the environment to suit their needs	SD	D	N	A	SA
Science and technology often do as much harm as good	SD	D	N	A	SA
In general, the Canadian/American people would be better off if the nations' economy stopped growing	SD	D	N	A	SA
The positive benefits of economic growth far outweigh any consequences	SD	D	N	A	SA
Economic growth improves the quality of life for all Canadians/Americans	SD	D	N	A	SA
More emphasis should be placed on teaching children about nature than on teaching them about science and technology	SD	D	N	A	SA
The earth is like a spaceship with only limited room and resources	SD	D	N	A	SA
In the long run, there are no limits to the extent to which we can raise our standard of living	SD	D	N	A	SA
To maintain a healthy economy, we will have to develop a "steady state" economy where industrial growth is controlled	SD	D	N	A	SA
We can continue to raise our standard of living through the application of science and technology	SD	D	N	A	SA
There are limits to growth beyond which our industrialized society cannot expand	SD	D	N	A	SA
The balance of nature is very delicate and easy to upset	SD	D	N	A	SA
Humans need not adapt to the environment because they can remake it to suit their needs	SD	D	N	A	SA
Plants and animals exist primarily to be used by humans	SD	D	N	A	SA
When humans interfere with nature, it often produces disastrous consequences	SD	D	N	A	SA
Mankind was created to rule over the rest of nature	SD	D	N	A	SA
Rapid economic growth often creates more problems than benefits	SD	D	N	A	SA
Most problems can be solved by applying more and better technology	SD	D	N	A	SA
Mankind is severely abusing the environment	SD	D	N	A	SA
Humans must live in harmony with nature in order to survive	SD	D	N	A	SA
Canadians/Americans are going to have to drastically reduce their consumption of material goods over the next few years	SD	D	N	A	SA
We are approaching the limit to the number of people the earth can support	SD	D	N	A	SA
We attach too much importance to economic measures of the level or well-being in our society	SD	D	N	A	SA
We *cannot* keep counting on science and technology to solve mankind's problems	SD	D	N	A	SA

Q-23. What do *you* feel it means to be environmentally concerned?
(Fill in the Blanks)

_____

_____

_____

Q-24. Please identify three key behaviors or actions that *you consider* reflect an environmentally concerned individual. (*Fill in the Blanks*)

_____

_____

_____

Q-25. Please rate how environmentally concerned *you* feel that *you* presently are. (*Circle Number*)

1 VERY CONCERNED
2 SOMEWHAT CONCERNED
3 NOT TOO CONCERNED
4 NOT AT ALL CONCERNED

E. Your Personal Opinions and Feelings.

THE FOLLOWING QUESTIONS DEAL WITH SOME OF YOUR PERSONAL OPINIONS AND FEELINGS ABOUT YOUR NAHANNI RIVER EXPERIENCE. PLEASE ANSWER THEM AS HONESTLY AS POSSIBLE. WE VALUE *YOUR* OPINIONS AND FEELINGS.

Q-26. Do you feel that your participation in the guided wilderness canoe trip on the Nahanni River contributed in any way to the preservation of that specific environment? (*Circle Number*)

1 NO
2 YES

Q-27. Please explain the reason(s) for your answer to question 26. (*Fill in the Blanks*)

_____

_____

_____

_____

_____

_____

_____

Q-28. Do you feel that your participation in the guided wilderness canoe trip on the Nahanni River *will* contribute to the preservation of that specific environment? (*Circle Number*)

1 NO
2 YES

Q-29. Please explain the reason(s) for your answer to question 28. (*Fill in the Blanks*)

_____

_____

_____

_____

_____

_____

_____

Q-30. Do you feel that your participation in the guided wilderness canoe trip on the Nahanni River contributed in any way to the preservation of other natural environments? (*Circle Number*)

1 NO
2 YES

Q-31. Please explain the reason(s) for your answer to question 30. (*Fill in the Blanks*)

_____

_____

_____

_____

_____

_____

_____

Q-32. Do you feel that your participation in a guided wilderness canoe trip on the Nahanni River *will* contribute to the preservation of other natural environments? (*Circle Number*)

1 NO
2 YES

Q-33. Please explain the reason(s) for your answer to question 32. (*Fill in the Blanks*)

_____

_____

_____

_____

_____

_____

Q-34. Do you feel that your Nahanni River experience has had an impact on your future wilderness activities? (*Circle Number*)

1 NO
2 YES

Q-35. Please explain the reason(s) for your answer to question 34. (*Fill in the Blanks*)

Q-36. Do you feel that your Nahanni River experience has had an impact on your concern for the environment? (*Circle Number*)

1 NO
2 YES

Q-37. Please explain the reason(s) for your answer to question 36. (*Fill in the Blanks*)

Q-38. Do you feel that the guide(s) on your particular Nahanni River trip had an influence on your present concern for the environment? (*Circle Number*)

1 NO
2 YES

Q-39. Please explain the reason(s) for your answer to question 38. (*Fill in the Blanks*)

Q-40. Do you feel that the guide(s) on your particular Nahanni River trip had an influence on your future wilderness activities? (*Circle Number*)

1 NO
2 YES

Q-41. Please explain the reason(s) for your answer to question 40. (*Fill in the Blanks*)

Q-42. Were there any occasions during your trip that you would have liked to have seen more environmental interpretation and/or education? (*Circle Number*)

1 NO
2 YES (GO TO Q-43.)

Q-43. Please describe briefly the occasion and the desired environmental interpretation and/or education. (*Fill in the Blanks*)

APPENDIX 6

Pre-Experience Questionnaire:

Control Group

Guided Wilderness Canoe Trips and Environmental Attitudes

Wilderness Canoeing and Environment Project
c/o Department of Recreation and Leisure Studies
University of Alberta
Edmonton, Alberta T6G 2H9

A. Past Experience

THIS FIRST GROUP OF QUESTIONS DEAL WITH YOUR PAST WILDERNESS EXPERIENCES.

Q-1. Have you been to Nahanni National Park in the past? (*Circle Number*)

1 NO (GO TO Q-4.)
2 YES

Q-2. When were you there? (*Fill in the Blanks*)

MONTH _____.
YEAR _____.
LENGTH OF VISIT(DAYS) _____.

Q-3. Did you travel down the River? (*Circle Number*)

1 NO
2 YES

Q-4. Have you ever participated in a guided wilderness canoe trip? (*Circle Number*)

1 NO
2 YES (GO TO Q-6.)

Q-5. How many other guided wilderness canoe trips have you participated in? (*Circle Number*)

1 1 - 2
2 3 - 4
3 5 - 6
4 6 or more

Q-6. Did you participate in any of the following activities as a child or adolescent? (*Circle Number(s)*)

1 FAMILY CAMPING (AUTO)
2 FAMILY CAMPING (PRIMITIVE)
3 WILDERNESS CAMPING

Q-7. As a child or adolescent, did you become involved in outdoor education/recreation programming offered through any of the following organizations? (*Circle Number(s)*)

1 SCOUTS/GUIDES
2 BOYS AND/OR GIRLS CLUB
3 Y.M.C.A./Y.W.C.A.
4 4-H
5 MUNICIPAL CAMPS
6 CHURCH CAMPS
7 SCHOOL CAMPS
8 OTHER FORMAL CAMP EXPERIENCE_____.

Q-8. Over the past two years have you subscribed to any outdoor recreation or environmental magazines or journals? (*Circle Number*)

1 NO (GO TO Q-10.)
2 YES

Q-9. Please list the title(s). (*Fill in the Blanks*)

_____
_____
_____

Q-10. Over the past two years, have you belonged to any outdoor recreation or environmental clubs or organizations? (*Circle Number*)

1 NO (GO TO Q-12.)
2 YES

Q-11. Please list the one(s) you belong(ed) to. (*Fill in the Blanks*)

_____
_____
_____

Q-12. Over the past two years, have you been actively involved in any environmental issues? (eg. writing newspapers, lobbying government, attending hearings, etc.) (*Circle Number*)

1 NO (GO TO Q-14.)
2 YES

Q-13. Please describe the issue and your involvement. (*Fill in the Blanks*)

ISSUE	YOUR INVOLVEMENT

Q-14. Please indicate the total number of conservation/environmental courses that you have ever taken. (eg. University, College, evening or weekend courses.) (*Circle Number*)

1 0
2 1 - 5
3 6 - 10
4 11 - 15
5 16 - 20
6 21 or more

B. Intended Wilderness Activity

THE FOLLOWING QUESTIONS DEAL WITH YOUR FUTURE INTENTIONS FOR WILDERNESS AND ENVIRONMENTAL PRESERVATION ACTIVITIES.

Q-15. Do you think you are likely to travel into a wilderness area(s), over the next twelve (12) month period? (*Circle Number*)

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY (GO TO Q-18.)
4 NOT AT ALL LIKELY (GO TO Q-18.)

Q-16. Please list the activities that you plan to engage in while in that/those areas. (*Fill in the Blanks*)

_____
_____
_____

Q-17. If camping is one of your activities, which of the forms described below will you most likely use? (*Circle Number(s)*)

1 AUTO CAMPING;HIGH ACCESS CAMPGROUNDS
2 SURVIVAL CAMPING (NATURAL SHELTER BUILDING, USE OF FIRES)
3 MINIMUM IMPACT CAMPING;HIGH TECHNOLOGY CAMPING (USE OF STOVES, TENTS)
4 COMBINATION SURVIVAL AND MINIMUM IMPACT
5 OTHER_____

Q-18. Do you think you are likely to join an outdoor recreation or environmental club or organization over the next twelve (12) month period? (exclude membership renewals) (*Circle Number*)

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY (GO TO Q-20.)
4 NOT AT ALL LIKELY (GO TO Q-20.)

Q-19. Please note the club(s) or organization(s) you are interested in joining; or, note the activity that you are interested in pursuing. (*Fill in the Blanks*)

_____
_____
_____

Q-20. Do you think you are likely to take an environmental or environmental leadership course(s) over the next twelve (12) month period? (*Circle Number*)

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY (GO TO Q-22.)
4 NOT AT ALL LIKELY (GO TO Q-22.)

Q-21. Please note the environmental course(s) by topic or title. (*Fill in the Blanks*)

_____
_____
_____

Q-22. Do you think you are likely to subscribe to any new outdoor recreation or environmental magazines or journals over the next twelve (12) month period? (exclude subscription renewals) (*Circle Number*)

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY (GO TO Q-24.)
4 NOT AT ALL LIKELY (GO TO Q-24.)

Q-23. Please note the publications by title(s) or topic(s). (*Fill in the Blanks*)

_____
_____
_____

Q-24. Do you think you are likely to become actively involved in an environmental issue(s) in the next twelve (12) month period? (eg. writing newspaper, lobbying government, attending hearings, etc.) (*Circle Number*)

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY (GO TO Q-26.)
4 NOT AT ALL LIKELY (GO TO Q-26.)

Q-25. Please note the environmental issue(s) you are likely to become involved in and your most likely course of action. (*Fill in the Blanks*)

ISSUE(S)	ACTION(S)
_____	_____
_____	_____

Q-26. If the Nahanni River were in some way threatened, would you lobby for its survival? (eg. writing newspapers, lobbying government, attending hearings, etc.)(*Circle Number*)

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY
4 NOT AT ALL LIKELY

C. Recent Wilderness and Environmental Preservation Activities.

WE REALIZE THAT THIS SECTION MAY OVERLAP WITH YOUR GENERAL PAST EXPERIENCES DESCRIBED IN SECTION "A". HOWEVER, WE ARE INTERESTED HERE IN A PARTICULAR TIME PERIOD, SO WE WOULD ASK YOU TO DESCRIBE THE APPROPRIATE EXPERIENCES EVEN IF THEY HAVE ALREADY BEEN INCLUDED. AS WELL, PLEASE DESCRIBE *ONLY* THOSE ACTIVITIES IN WHICH *YOU HAVE ACTUALLY BEEN INVOLVED.*

Q-27. Did you travel into a wilderness area(s) in the last 12 months? (*Circle Number*)

1 NO (GO TO Q-30.)
2 YES

Q-28. Please list the activity(ies) you engaged in while in that/those area(s). (*Fill in the Blanks*)

_____
_____
_____

Q-29. If camping was one of the activities, which of those forms described below did you use? (*Circle Number*)

1 AUTO CAMPING;HIGH ACCESS CAMPGROUNDS
2 SURVIVAL CAMPING (EG. NATURAL SHELTER BUILDING, BUILDING FIRES)
3 MINIMUM IMPACT CAMPING (EG. USE OF STOVES AND TENTS)
4 COMBINATION SURVIVAL AND MINIMUM IMPACT

Q-30. Did you participate in any environmental or environmental leadership course(s) in the last 12 months? (*Circle Number*)

1 NO (GO TO Q-32.)
2 YES

Q-31. Please note the environmental course(s) by title or topic. (*Fill in the Blanks*)

_____
_____
_____

Q-32. Did you subscribe to any new outdoor recreation or environmental magazines or journals in the last 12 months? (exclude subscription renewals) (*Circle Number*)

1 NO (GO TO Q-34.)
2 YES

Q-33. Please note the publications by title(s) or topic(s). (*Fill in the Blanks*)

_____
_____

D. Environmental Attitude

BELOW ARE SOME STATEMENTS DEALING GENERALLY WITH ISSUES RELATED TO RESOURCES AND THE ENVIRONMENT. IT IS IMPORTANT THAT WE KNOW WHAT YOUR PRESENT ENVIRONMENTAL ATTITUDE IS.

Q-34. PLEASE READ EACH STATEMENT CAREFULLY, THEN CIRCLE THE NUMBER THAT CORRESPONDS MOST CLOSELY TO *YOUR OPINION* ABOUT THAT STATEMENT. THERE ARE NO RIGHT OR WRONG ANSWERS: WE ARE ONLY INTERESTED IN *YOUR* OPINION.

SD = STRONGLY DISAGREE
D = DISAGREE
N = NEUTRAL
A = AGREE
SA = STRONGLY AGREE

Humans have the right to modify the environment to suit their needs	SD	D	N	A	SA
Science and technology often do as much harm as good	SD	D	N	A	SA
In general, the Canadian/American people would be better off if the nations' economy stopped growing	SD	D	N	A	SA
The positive benefits of economic growth far outweigh any consequences	SD	D	N	A	SA
Economic growth improves the quality of life for all Canadians/Americans	SD	D	N	A	SA
More emphasis should be placed on teaching children about nature than on teaching them about science and technology	SD	D	N	A	SA
The earth is like a spaceship with only limited room and resources	SD	D	N	A	SA
In the long run, there are no limits to the extent to which we can raise our standard of living	SD	D	N	A	SA
To maintain a healthy economy, we will have to develop a "steady state" economy where industrial growth is controlled	SD	D	N	A	SA
We can continue to raise our standard of living through the application of science and technology	SD	D	N	A	SA
There are limits to growth beyond which our industrialized society cannot expand	SD	D	N	A	SA
The balance of nature is very delicate and easy to upset	SD	D	N	A	SA
Humans need not adapt to the environment because they can remake it to suit their needs	SD	D	N	A	SA
Plants and animals exist primarily to be used by humans	SD	D	N	A	SA
When humans interfere with nature, it often produces disastrous consequences	SD	D	N	A	SA
Mankind was created to rule over the rest of nature	SD	D	N	A	SA
Rapid economic growth often creates more problems than benefits	SD	D	N	A	SA
Most problems can be solved by applying more and better technology	SD	D	N	A	SA
Mankind is severely abusing the environment	SD	D	N	A	SA
Humans must live in harmony with nature in order to survive	SD	D	N	A	SA
Canadians/Americans are going to have to drastically reduce their consumption of material goods over the next few years	SD	D	N	A	SA
We are approaching the limit to the number of people the earth can support	SD	D	N	A	SA
We attach to much importance to economic measures of the level or well-being in our society	SD	D	N	A	SA
We *cannot* keep counting on science and technology to solve mankind's problems	SD	D	N	A	SA

Q-35. What do *you* feel it means to be environmentally concerned? (*Fill in the Blanks*)

_____

_____

_____

Q-36. Please identify three key behaviors or actions that *you consider* reflect an environmentally concerned individual. (*Fill in the Blanks*)

_____

_____

_____

Q-37. Please rate how environmentally concerned *you* feel that *you* presently are. (*Circle Number*)

1 VERY CONCERNED
2 SOMEWHAT CONCERNED
3 NOT TOO CONCERNED
4 NOT AT ALL CONCERNED

Q-46. What is your present place of residence? (*Circle Number*)

1 URBAN
2 SMALL TOWN
3 RURAL, NON-FARM
4 FARM
5 OTHER (SPECIFY) _____

Q-47. What was your place of residence throughout most of your childhood? (*Circle Number*)

1 URBAN
2 SMALL TOWN
3 RURAL, NON-FARM
4 FARM
5 OTHER (SPECIFY) _____

Q-48. In which province or state did you reside throughout most of your childhood? (*Fill in the Blanks*)

_____

Q-49. What is the highest level of education that you have completed? (*Circle Number*)

1 HIGH SCHOOL OR LESS (GO TO Q-51.)
2 POST-SECONDARY/TECHNICAL (GO TO Q-51.)
3 SOME UNIVERSTIY STUDY (GO TO Q-51.)
4 A BACHELOR'S DEGREE
5 SOME POSTGRADUATE STUDY
6 A GRADUATE DEGREE (MASTERS OR Ph.D.)

Q-50. What was (or is) your major? (Please identify the main subject you studied at University) (*Fill in the Blanks*)

_____

Q-51. Please estimate the gross income (before taxes) of your *household* for 1990. (*Circle Number*)

1 $9,999 or less
2 $10,000 - $19,999
3 $20,000 - $29,999
4 $30,000 - $49,999
5 $50,000 - $69,999
6 $70,000 - $89,999
7 $90,000 - $109,999
8 $110,000 or more

Q-52. What is your occupation? (*Fill in the Blank*)

_____

Is there anything else you would like to tell us about the topics dealt with in this questionnaire? If so, please use this space for that purpose.

Your contribution to this project is greatly appreciated. Once again I would remind you that if you would like a summary of the results, please write "Copy of results requested", together with your name and address, on the back of the return envelope (NOT on the questionnaire). We will make sure you receive it.

APPENDIX 7

Post-Experience Questionnaire:

Control Group

Guided Wilderness Canoe Trips and
Environmental Attitudes

Wilderness Canoeing and Environment Project
c/o Department of Recreation and Leisure Studies
University of Alberta
Edmonton, Alberta T6G 2H9

A. Your Recent Wilderness Experience

EVERYONE WHO PARTICIPATES IN WILDERNESS ACTIVITIES HAS A UNIQUE AND DIFFERENT EXPERIENCE. WE WOULD LIKE TO KNOW HOW YOUR RECENT WILDERNESS EXPERIENCE HAS BEEN UNIQUE AND DIFFERENT FOR YOU.

Q-1. Have you had any wilderness experiences since you last completed a questionnaire for us in May, 1991? (*Circle Number*)

1 NO (GO TO Q-5.)
2 YES

Q-2. Please describe briefly, your recent wilderness experience? (*Fill in the Blanks*)

_____
_____
_____
_____
_____
_____

Q-3. Please describe briefly, two (2) or three (3) highlights from your wilderness experience. (*Fill in the Blanks*)

_____
_____
_____
_____
_____
_____

Q-4. Please describe briefly, any events that occurred during your trip that were particularly meaningful to you and what impact they have had on you. (*Fill in the Blanks*)

_____
_____
_____
_____
_____
_____

B. Intended Wilderness Activity

THE FOLLOWING QUESTIONS DEAL WITH YOUR INTENDED WILDERNESS AND ENVIRONMENTAL PRESERVATION ACTIVITIES. WE ARE INTERESTED IN WHETHER OR NOT THESE HAVE CHANGED SINCE YOU COMPLETED YOUR LAST QUESTIONNAIRE FOR US IN MAY.

Q-5. Do you think you are likely to travel into a wilderness area(s), over the next twelve (12) month period? (*Circle Number*)

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY (GO TO Q-8.)
4 NOT AT ALL LIKELY (GO TO Q-8.)

Q-6. Please list the activities that you plan to engage in while in that/those area(s). (*Fill in the Blanks*)

_____
_____
_____

Q-7. If camping is one of your activities, which of the forms described below will you most likely use? (*Circle Number(s)*)

1 AUTO CAMPING;HIGH ACCESS CAMPGROUNDS
2 SURVIVAL CAMPING (NATURAL SHELTER BUILDING, USE OF FIRES)
3 MINIMUM IMPACT CAMPING;HIGH TECHNOLOGY CAMPING (USE OF STOVES, TENTS)
4 COMBINATION SURVIVAL AND MINIMUM IMPACT
5 OTHER_____

Q-8. Do you think you are likely to join an outdoor recreation or environmental club or organization over the next twelve (12) month period? (exclude membership renewals) (*Circle Number*)

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY (GO TO Q-10.)
4 NOT AT ALL LIKELY (GO TO Q-10.)

Q-9. Please note the club(s) or organization(s) you are interested in joining; or, note the activity that you are interested in pursuing. (*Fill in the Blanks*)

_____
_____
_____

Q-10. Do you think you are likely to take an environmental or environmental leadership course(s) over the next twelve (12) month period? (*Circle Number*)

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY (GO TO Q-12.)
4 NOT AT ALL LIKELY (GO TO Q-12.)

Q-11. Please note the environmental course(s) by topic or title. (*Fill in the Blanks*)

_____
_____
_____

Q-12. Do you think you are likely to subscribe to any new outdoor recreation or environmental magazines or journals over the next twelve (12) month period? (exclude subscription renewals) (*Circle Number*)

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY (GO TO Q-14.)
4 NOT AT ALL LIKELY (GO TO Q-14.)

Q-13. Please note the publications by title(s) or topic(s). (*Fill in the Blanks*)

_____
_____
_____

Q-14. Do you think you are likely to become actively involved in an environmental issue(s) in the next twelve (12) month period? (eg. writing newspaper, lobbying government, attending hearings, etc.) (*Circle Number*)

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY (GO TO Q-16.)
4 NOT AT ALL LIKELY (GO TO Q-16.)

Q-15. Please note the environmental issue(s) you are likely to become involved in and your most likely course of action. (*Fill in the Blanks*)

ISSUE(S)	ACTION(S)
_____	_____
_____	_____
_____	_____

Q-16. If the Nahanni River were in some way threatened, would you lobby for its survival? (eg. writing newspapers, lobbying government, attending hearings, etc.)(*Circle Number*)

1 VERY LIKELY
2 SOMEWHAT LIKELY
3 NOT TOO LIKELY
4 NOT AT ALL LIKELY

C. Recent Wilderness and Environmental Preservation Activities

THE FOLLOWING QUESTIONS DEAL WITH YOUR MOST RECENT WILDERNESS AND ENVIRONMENTAL PRESERVATION ACTIVITIES. AGAIN, WE ARE INTERESTED IN HOW THESE MAY HAVE CHANGED SINCE MAY. THEREFORE, PLEASE DESCRIBE *ONLY* THOSE ACTIVITIES IN WHICH *YOU HAVE ACTUALLY BEEN INVOLVED*.

Q-17. Did you travel into a wilderness area(s) in the last 6 months? (*Circle Number*)

1 NO (GO TO Q-20.)
2 YES

Q-18. Please list the activity(ies) you engaged in while in that/those area(s). (*Fill in the Blanks*)

_____
_____
_____

Q-19. If camping was one of the activities, which of those forms described below did you use? (*Circle Number*)

1 AUTO CAMPING;HIGH ACCESS CAMPGROUNDS
2 SURVIVAL CAMPING (EG. NATURAL SHELTER BUILDING, BUILDING FIRES)
3 MINIMUM IMPACT CAMPING (EG. USE OF STOVES AND TENTS)
4 COMBINATION SURVIVAL AND MINIMUM IMPACT
5 OTHER_____.

Q-20. Did you participate in any environmental or environmental leadership course(s) in the last 6 months? (*Circle Number*)

1 NO (GO TO Q-22.)
2 YES

Q-21. Please note the environmental course(s) by title or topic. (*Fill in the Blanks*)

_____

_____

_____

Q-22. Did you subscribe to any new outdoor recreation or environmental magazines or journals in the last 6 months? (exclude subscription renewals) (*Circle Number*)

1 NO (GO TO Q-24.)
2 YES

Q-23. Please note the publications by title(s) or topic(s). (*Fill in the Blanks*)

_____

_____

_____

D. Environmental Attitude

BELOW ARE SOME STATEMENTS DEALING GENERALLY WITH ISSUES RELATED TO RESOURCES AND THE ENVIRONMENT. IT IS IMPORTANT THAT WE KNOW WHAT YOUR PRESENT ATTITUDES ARE.

Q-24. PLEASE READ EACH STATEMENT CAREFULLY, THEN CIRCLE THE NUMBER THAT CORRESPONDS MOST CLOSELY TO *YOUR OPINION* ABOUT THAT STATEMENT. THERE ARE NO RIGHT OR WRONG ANSWERS: WE ARE ONLY INTERESTED IN *YOUR* OPINION.

SD = STRONGLY DISAGREE
D = DISAGREE
N = NEUTRAL
A = AGREE
SA = STRONGLY AGREE

Humans have the right to modify the environment to suit their needs	SD	D	N	A	SA
Science and technology often do as much harm as good	SD	D	N	A	SA
In general, the Canadian/American people would be better off if the nations' economy stopped growing	SD	D	N	A	SA
The positive benefits of economic growth far outweigh any consequences	SD	D	N	A	SA
Economic growth improves the quality of life for all Canadians/Americans	SD	D	N	A	SA
More emphasis should be placed on teaching children about nature than on teaching them about science and technology	SD	D	N	A	SA
The earth is like a spaceship with only limited room and resources	SD	D	N	A	SA
In the long run, there are no limits to the extent to which we can raise our standard of living	SD	D	N	A	SA
To maintain a healthy economy, we will have to develop a "steady state" economy where industrial growth is controlled	SD	D	N	A	SA
We can continue to raise our standard of living through the application of science and technology	SD	D	N	A	SA
There are limits to growth beyond which our industrialized society cannot expand	SD	D	N	A	SA
The balance of nature is very delicate and easy to upset	SD	D	N	A	SA
Humans need not adapt to the environment because they can remake it to suit their needs	SD	D	N	A	SA
Plants and animals exist primarily to be used by humans	SD	D	N	A	SA
When humans interfere with nature, it often produces disastrous consequences	SD	D	N	A	SA
Mankind was created to rule over the rest of nature	SD	D	N	A	SA
Rapid economic growth often creates more problems than benefits	SD	D	N	A	SA
Most problems can be solved by applying more and better technology	SD	D	N	A	SA
Mankind is severely abusing the environment	SD	D	N	A	SA
Humans must live in harmony with nature in order to survive	SD	D	N	A	SA
Canadians/Americans are going to have to drastically reduce their consumption of material goods over the next few years	SD	D	N	A	SA
We are approaching the limit to the number of people the earth can support	SD	D	N	A	SA

We attach too much importance to economic measures of the level or well-being in our society.....SD D N A SA

We *cannot* keep counting on science and technology to solve mankind's problems.....SD D N A SA

Q-25. What do *you* feel it means to be environmentally concerned? (*Fill in the Blanks*)

_____

_____

_____

Q-26. Please identify three key behaviors or actions that *you consider* reflect an environmentally concerned individual. (*Fill in the Blanks*)

_____

_____

_____

Q-27. Please rate how environmentally concerned *you* feel that *you* presently are. (*Circle Number*)

1 VERY CONCERNED
2 SOMEWHAT CONCERNED
3 NOT TOO CONCERNED
4 NOT AT ALL CONCERNED

Q-28. Do you feel that participation in a guided wilderness canoe trip on the Nahanni River *will* contribute to the preservation of that specific environment? (*Circle Number*)

1 NO
2 YES

Q-29. Please explain the reason(s) for your answer to question 28. (*Fill in the Blanks*)

_____

_____

_____

_____

_____

_____

_____

Q-30. Do you feel that participation in a guided wilderness canoe trip on the Nahanni River *will* contribute to the preservation of other natural environments? (*Circle Number*)

1 NO
2 YES

Q-31. Please explain the reason(s) for your answer to question 30. (*Fill in the Blanks*)

_____

_____

_____

_____

_____

IF YOU HAVE HAD A WILDERNESS EXPERIENCE SINCE MAY, 1991, PLEASE ANSWER THE FOLLOWING QUESTIONS. IF YOU HAVE HAD MORE THAN ONE EXPERIENCE, PLEASE CONSIDER THEM ALL IN YOUR ANSWERS.

Q-32. Do you feel that your recent wilderness experience has had an impact on your future intended wilderness activities? (*Circle Number*)

1 NO
2 YES

Q-33. Please explain the reason(s) for your answer to question 32. (*Fill in the Blanks*)

_____

_____

_____

_____

_____

_____

Q-34. Do you feel that your recent wilderness experience has had an impact on your concern for the environment? (*Circle Number*)

1 NO
2 YES

Q-35. Please explain the reason(s) for your answer to question 34. (*Fill in the Blanks*)

_____

_____

_____

_____

_____

_____

Is there anything else you would like to tell us about the topics dealt with in this questionnaire? If so, please use this space for that purpose.

Your contribution to this project is greatly appreciated. Once again I would remind you that if you would like a summary of the results, please write "Copy of results requested", together with your name and address, on the back of the return envelope (NOT on the questionnaire). We will make sure you receive it.

APPENDIX 8

Codebook

CODEBOOK

Variable	Column	Description and Coding Scheme
		9=missing data/not applicable throughout.
A/ID	1-2	Questionnaire identification number. #1 - 46 = study group #50 - 88 = control group
B/PREPOST	3	Pre or Post questionnaire. 1 = pre test 2 = post test
C/	4	
D/VISITNAH	5	Have you been to Nahanni Nat'l Park in the past? 1 = no 2 = yes
E/MONTH	6	What month of the year were you there? # = month of year
F/YEAR	7-8	In what year were you there? # = year
G/NUMDAYS	9-10	How many days did you spend there? # = number of days
H/DOWNRIVR	11	Did you travel down the River? 1 = no 2 = yes
I/FSTGUDTR	12	Will this be the first guided wilderness canoe trip that you have participated in? 1 = no 2 = yes
J/NUMGUDTR	13	How many other guided wilderness canoe trips have you participated in? 1 = 1 - 2 2 = 3 - 4 3 = 5 - 6 4 = 6 or more

K/PARTCHL1	14	Did you participate in any of the following activities as a child or adolescent? FAMILY CAMPING (AUTO) 1 = no 2 = yes
L/PARTCHL2	15	FAMILY CAMPING (PRIMITIVE) 1 = no 2 = yes
M/PARTCHL3	16	WILDERNESS CAMPING 1 = no 2 = yes
N/ORGCHD1	17	As a child or adolescent, did you become involved in outdoor education /recreation programming offered through any of the following organizations? SCOUTS/GUIDES 1 = no 2 = yes
O/ORGCHD2	18	BOYS AND/OR GIRLS CLUB 1 = no 2 = yes
P/ORGCHD3	19	Y.M.C.A./Y.W.C.A. 1 = no 2 = yes
Q/ORGCHD4	20	4-H 1 = no 2 = yes
R/ORGCHD5	21	MUNICIPAL CAMPS 1 = no 2 = yes
S/ORGCHD6	22	CHURCH CAMPS 1 = no 2 = yes
T/ORGCHD7	23	SCHOOL CAMPS 1 = no 2 = yes
U/ORGCHD8	24	OTHER FORMAL CAMP EXPERIENCES 1 = no 2 = yes

V/PASTJOUR	25	Over the past two years have you subscribed to any outdoor recreation or environmental magazines or journals? 1 = no 2 = yes
W/PASTCLUB	26	Over the past two years, have you belonged to any outdoor recreation or environmental clubs or organizations? 1 = no 2 = yes
X/PASTISSU	27	Over the past two years, have you been actively involved in any environmental issues? 1 = no 2 = yes
Y/NUMENVCR	28	Please indicate the total number of conservation/environmental courses that you have ever taken. 1 = 0 2 = 1 - 5 3 = 6 - 10 4 = 11 - 15 5 = 16 - 20 6 = 21 or more
Z/TRWILDAR	29	Do you think you are likely to travel into a wilderness area over the next twelve month period? 1 = very likely 2 = somewhat likely 3 = not too likely 4 = not at all likely
AA/TYPECMP1	30	If camping is one of your activities, which of the forms below are you most likely to use? AUTO CAMPING, HIGH ACCESS CAMPGROUND 1 = no 2 = yes

AB/TYPECMP2	31	SURVIVAL CAMPING (NATURAL SHELTER BUILDING, USE OF FIRES) 1 = no 2 = yes
AC/TYPECMP3	32	MINIMUM IMPACT CAMPING, HIGH TECHNOLOGY CAMPING (USE OF STOVES, TENTS) 1 = no 2 = yes
AD/TYPECMP4	33	COMBINATION SURVIVAL AND MINIMUM IMPACT 1 = no 2 = yes
AE/TYPECMP5	34	OTHER 1 = no 2 = yes
AF/JOINCLUB	35	Do you think you are likely to join an outdoor recreation or environmental club or organization over the next twelve month period? 1 = very likely 2 = somewhat likely 3 = not too likely 4 = not at all likely
AG/TAKECOUR	36	Do you think you are likely to take an environmental leadership course(s) over the next twelve month period? 1 = very likely 2 = somewhat likely 3 = not too likely 4 = not at all likely
AH/SUBSJOUR	37	Do you think you are likely to subscribe to any new outdoor recreation or environmental magizines or journals over the next twelve month period? 1 = very likely 2 = somewhat likely 3 = not too likely 4 = not at all likely

AI/INVLISSU	38	Do you think you are likely to become actively involved in an environmental issue(s) in the next twelve month period? 1 = very likely 2 = somewhat likely 3 = not too likely 4 = not at all likely
AJ/NAHITHRT	39	If the Nahanni River were in some way threatened, would you lobby for its survival? 1 = very likely 2 = somewhat likely 3 = not too likely 4 = not at all likely
AK/WILDTR12	40	Did you travel into a wilderness area in the last twelve month period? 1 = no 2 = yes
AL/CMPTYPE1	41	If camping was one of the activities, which of the forms below did you use? AUTO CAMPING, HIGH ACCESS CAMPGROUND 1 = no 2 = yes
AM/CMPTYPE2	42	SURVIVAL CAMPING (NATURAL SHELTER BUILDING, USE OF FIRES) 1 = no 2 = yes
AN/CMPTYPE3	43	MINIMUM IMPACT CAMPING, HIGH TECHNOLOGY CAMPING (USE OF STOVES, TENTS) 1 = no 2 = yes
AO/CMPTYPE4	44	COMBINATION SURVIVAL AND MINIMUM IMPACT 1 = no 2 = yes
AP/CMPTYPE5	45	OTHER 1 = no 2 = yes

AQ/WILDTR6	46	Did you travel into a wilderness area in the last six month period? 1 = no 2 = yes
AR/KINDCMP1	47	If camping was one of the activities, which of the forms below did you use? AUTO CAMPING, HIGH ACCESS CAMPGROUND 1 = no 2 = yes
AS/KINDCMP2	48	SURVIVAL CAMPING (NATURAL SHELTER BUILDING, USE OF FIRES) 1 = no 2 = yes
AT/KINDCMP3	49	MINIMUM IMPACT CAMPING, HIGH TECHNOLOGY CAMPING (USE OF STOVES, TENTS) 1 = no 2 = yes
AU/KINDCMP4	50	COMBINATION SURVIVAL AND MINIMUM IMPACT 1 = no 2 = yes
AV/KINDCMP5	51	OTHER 1 = no 2 = yes
AW/ENVCOR12	52	Did you participate in any environmental or environmental leadership courses in the last twelve month period? 1 = no 2 = yes
AX/ENVCOR6	53	Did you participate in any environmental or environmental leadership courses in the last six month period? 1 = no 2 = yes

AY/NWJOUR12	54	Did you subscribe to any new outdoor recreation or environmental magizines or journals in the last twelve month period? 1 = no 2 = yes
AZ/NWJOUR6	55	Did you subscribe to any new outdoor recreation or environmental magazines or journals in the last six month period? 1 = no 2 = yes
BA/HUMANMOD	56	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree
BB/SCIHARM	57	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree
BC/STOPGROW	58	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree
BD/OUTWEIGH	59	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree
BE/GROWIMPR	60	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree
BF/TEACHNAT	61	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree

BG/SPACESHP	62	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree
BH/STANDLIV	63	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree
BI/STEADYST	64	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree
BJ/RAISESTD	65	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree
BK/LIMITGRW	66	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree
BL/BALNATUR	67	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree
BM/HUMANADP	68	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree
BN/HUMANUSE	69	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree

BO/INTERNAT	70	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree
BP/RULENATU	71	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree
BQ/RAPIDGRW	72	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree
BR/SOLVTECH	73	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree
BS/MANABUSE	74	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree
BT/HARMONY	75	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree
BU/REDUSCON	76	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree
BV/LIMITNUM	77	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree

BW/WELLBENG	78	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree
BX/COUNTSCI	79	1 = strongly disagree 2 = disagree 3 = neutral 4 = agree 5 = strongly agree
BY/HOWCONCN	80	Please rate how environmental concerned you feel that you presently are? 1 = very concerned 2 = somewhat concerned 3 = not too concerned 4 = not at all concerned
BZ/WILLCONT	81	Do you feel that your participation in a guided wilderness canoe trip on the Nahanni River will contribute to the preservation of that specific environment? 1 = no 2 = yes 3 = maybe
CA/HASCONT	82	Do you feel that your participation in a guided wilderness canoe trip on the Nahanni River has contributed to the preservation of that specific environment? 1 = no 2 = yes 3 = maybe
CB/WILLOTHR	83	Do you feel that your participation in a guided wilderness canoe trip on the Nahanni River will contribute to the preservation of other natural environments? 1 = no 2 = yes 3 = maybe

CC/HASOTHR	84	Do you feel that your participation in a guided wilderness canoe trip on the Nahanni River has contributed to the preservation of other natural environments? 1 = no 2 = yes 3 = maybe
CD/SEX	85	What is your sex? 1 = male 2 = female
CE/BORN	86-87	In what year were you born? # = year born
CF/MARITAL	88	What is your marital status? 1 = never married 2 = married 3 = separated 4 = divorced 5 = widowed
CG/DEPCHILD	89	Do you have any dependent children? 1 = no 2 = yes
CH/PRESTRES	90	What is your present place of residence? 1 = urban 2 = small town 3 = rural, non-farm 4 = farm 5 = other
CI/CHILDRES	91	What was your place of residence throughout most of your childhood? 1 = urban 2 = small town 3 = rural, non-farm 4 = farm 5 = other

CJ/EDUC	92	What is the highest level of education that you have completed? 1 = high school or less 2 = post secondary/technical 3 = some university study 4 = a bachelor's degree 5 = some post graduate study 6 = a graduate degree (master's or Ph.D.)
CK/INCOME	93	Please estimate the gross income (before taxes) of your household for 1990. 1 = $9,999 or less 2 = $10,000 to 19,999 3 = $20,000 to 29,999 4 = $30,000 to 49,999 5 = $50,000 to 69,999 6 = $70,000 to 89,999 7 = $90,000 to 109,999 8 = 110,000 or more
CL/SINCEMAY	94	Have you had any wilderness experiences since you last completed a questionnaire for us in May? 1 = no 2 = yes
CM/NAHFUTAC	95	Do you feel that your Nahanni experience has had an influence on your future wilderness activities? 1 = no 2 = yes
CN/RECFUTAC	96	Do you feel that your recent wilderness experience has had and influence on your future wilderness activities? 1 = no 2 = yes
CO/NAHINFCN	97	Do you feel that your Nahanni experience has had an impact on your concern for the environment? 1 = no 2 = yes

CP/RECINFCN	98	Do you feel that your recent wilderness experience has had an impact on your concern for the environment? 1 = no 2 = yes
CQ/GUDINFCN	99	Do you feel that the guide(s) on your particular Nahanni River trip had an influence on your present concern for the environment? 1 = no 2 = yes
CR/GUDINFAC	100	Do you feel that the guide(s) on your particular Nahanni River trip had an influence on your future wilderness activities? 1 = no 2 = yes